An Evaluation of the University of Chester's Dietetic Programmes:

Do they enhance employment and meet the needs of the workforce?

MSc Nutrition and Dietetics

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Abstract

Although evidence in relation to enhancing employability, readiness for practice, and meeting workforce needs, exists from previous dietetic studies in Australia, Canada, and the United States, there is a lack of research into these areas in the United Kingdom. The focus of this study, therefore, was to identify graduate and employers perceptions of the dietetic programmes offered at one of the United Kingdom's Higher Education Institutions, namely the University of Chester. It is expected that the benefits of the findings will be twofold; firstly, they will potentially impact on the curriculum content of the University of Chester's dietetic programme in relation to producing graduates who are fit for practice, and secondly, it is envisaged that they will improve the employability prospects and readiness to practice of dietetic graduates.

Postal and email questionnaires were sent to 218 graduates from the University (response rate 27% n=59) and one-to-one semi structured taped interviews were conducted with NHS dietetic managers (n=8). Mixed research paradigms were employed. Qualitative data was analysed using SPSS (V19.0) and qualitative data analysed using thematic analysis processes.

Results showed that 64% (n=38) of the graduates who responded felt satisfied that their dietetic programme ensured that they were fit for purpose as a graduate level dietitian. Significant differences existed between undergraduate and postgraduate responses in 4 skill areas namely; communication (p=0.015) interpersonal skills (p=0.013) professional attitude (p=0.015) and initiative (p=0.029). Two common themes occurred from the NHS department managers

and graduate questionnaire responses, namely; the need for further development of motivational interviewing and behavioural change techniques and job application support and interview skills.

In conclusion the results of this study suggest that both the needs of graduates and NHS department managers, in relation to preparedness for practice and fitness for purpose, are being met. However, graduates and NHS managers identified the development of motivational interviewing and behavioural change techniques and job application support and interview skills as an important need within the curriculum.

Keywords: dietitian, employability, dietetic education, readiness to practice.

Declaration of Original Work

"I hereby declare that work contained herewith is original and is entirely my own work (unless indicated otherwise). It has not been previously submitted in support of a Degree, qualification or other course"

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Glossary

AHP	Allied Health Professional
BDA	British Dietetic Association
DOH	Department of Health
EQuIP	Enhancing Quality in Partnership
HEI	Higher Education Institute
HPC	Health Professions Council
IPE	Interprofessional Education
LC	Learning Community
MSc	Master of Science
NHS	National Health Service
NHSNW	National Health Service North West
OSCE	Objective Structured Clinical Examination Model
PGDip	Postgraduate Diploma
PBL	Problem Based Learning
PLA	Prior Learning Assessment
QAA	Quality Assurance Agency
SET	Standards of Education and Training
SHA	Strategic Health Authority
SOP	Standards of Proficiency
UK	United Kingdom

1.0 INTRODUCTION

This chapter provides background information on dietetics as a profession, and details of the dietetic programmes content and provision at the University of Chester. Information on the increase in access to higher education, workforce planning, and employability are reported in relation to dietetics. The focus of the research is discussed and justified and the overall research aim and individual research objectives are identified.

1.1 Background

1.1.1 Registered Dietitians

Registered dietitians are defined by the British Dietetic Association (BDA) as uniquely qualified to translate scientific information about food into practical dietary advice. Dietitians provide impartial advice about nutrition and health, about food related problems, and treat disease and ill health, (BDA, 2010).

Registered dietitians are classed as Allied Health Professionals (AHP's). The Department of Health (DoH) in 2010 stated AHP's to be a diverse group of statutory-registered practitioners who deliver high quality care to patients across

a wide range of care pathways and in a variety of settings. AHP's must be registered with the Health Professions Council (HPC). The HPC is an independent, UK-wide regulatory body responsible for setting and maintaining standards of professional training, performance and conduct of the healthcare professions that it regulates (DoH, 2009). Since July 2003, the HPC introduced "protection of the title" for allied health professions (DoH, 2009)

1.1.2 Dietetic Professional and Regulatory Bodies

The BDA, established in 1936, is the professional association for dietitians. They are responsible, amongst other things, for the dietetic university programmes underpinning curriculum, and have produced a Curriculum Framework for the Pre-Registration Education and Training of dietitians (2008). This guidance framework describes the key aspects of knowledge; skills and attributes required by entry-level dietitians to ensure new graduates satisfy the HPC standards of proficiency for dietitians and therefore eligibility to apply for registration as a dietitian.

1.2 Higher Education

The increase in students accessing higher education is currently at an all time high. Between 1999 and 2009 there was a 44% increase of accepted applicants to higher education in the UK, with some 487,329 students starting university in September 2011. This is an increase of 1.4% on the year before, according to official figures from the University Admissions Service (UCAS, 2010).

UCAS (2010) reported that there were many factors that motivate people to consider higher education, with one of these factors including the UK's current economic situation. UCAS reports that more people are looking to long-term retraining in traditionally more secure or transferable careers (such as nursing). With the increase reported in student figures, there is also therefore an increase in numbers of graduates, and ultimately, competition for employment.

The Confederation of British Industry (CBI) in 2009 stated "wider access to higher education has increased the numbers competing for graduate level jobs. It is extremely important that students develop valuable transferable skills as part of their university experience, the benefits are tangible" (p.4).

The CBI (2009) also claimed that this competitive graduate workforce means there is a paramount need to be competent and ready for employment. They report readiness for work rests on the content and delivery of student's

university courses. This means there is pressure on HEI's to ensure programmes produce fit for purpose students, as well as embrace and encompass the development of both generic and specific skills.

It is essential graduates possess these desirable generic and specific skills to be strong contenders in today's competitive job market. Both HEI's and employers have a vital role in providing appropriate course curriculum content and work placements which will aid the development of these skills. In a survey of what HEI's should prioritise, the CBI claimed 82% of employers chose "improving student's employability skills" (CBI, 2009, p.7).

1.3 The University of Chester's Dietetic Programmes

Within the United Kingdom, there are currently 14 universities that offer dietetic undergraduate degree programmes leading to registration as a dietitian, and 8 of these universities offering the postgraduate programme of study. The University of Chester is the only Higher Education Institute in the North West area offering both undergraduate and postgraduate dietetic programmes (BSc (Hons) in Nutrition and Dietetics and MSc/Postgraduate Diploma in Nutrition and Dietetics respectively). The postgraduate programme commenced in 2002, with the first programme graduates in 2004, while the undergraduate programme commenced in September 2003, with the first graduates in 2007. Since starting, 237 students in total have graduated from the programmes.

The University of Chester's dietetic programmes are supported by the National Health Service North West (NHSNW) Strategic Health Authority (SHA). They are intensive and much of the teaching is student-centred. The undergraduate and postgraduate programmes are deemed by the University of Chester to be market and employer driven, with employer liaison partnership groups supporting curriculum development ensuring relevance to the workplace, so graduates should be fit for purpose in relation to employability.

Programme curricula and learning outcomes have been informed by the BDA Curriculum Framework for the Pre-registration and Training of Dietitians (2008), the Skills for Health EQuIP Healthcare Education Quality Assurance (QA) Framework (2005), and Quality Assurance Agency (QAA) subject benchmark statements in the context of the Framework for Higher Education Qualifications. Influencing the University of Chester's curriculum content as well is the HPC Standards of Proficiency (SOPs). SOPs are the standards which every registrant must meet in order to become registered, and must continue to meet in order to maintain this registration. Standards for Education and Training (SETs) are the standards against which the HPC assess education and training programmes and the HEI's must meet these in order to be approved by the HPC.

The taught programmes are interspersed with three periods of practice placement. Graduates from these courses are deemed to be competent to

practice at the professions entry level. The University of Chester's dietetic programmes provide the clinical skills and knowledge to become a competent health professional, and encompass generic key skills including employability skills and professional skills mapped to programmes modules and professional placements to ensure they are an integrated element of the programme. University of Chester students are provided with a range of opportunities to develop and strengthen their skills along with their knowledge and understanding (University of Chester, 2011).

Graduate degrees imply a level of employability within themselves, and as dietitians can only qualify on completion of a graduate degree, it would be anticipated they should therefore possess these enhanced skills (such as decision making, problem solving, communication, leadership). More recently, higher employment grades in the workplace can demand a Masters, or even PhD level education within person specifications in job descriptions.

1.4 NHS North West

1.4.1 Health Challenges

The NHS North West is the largest SHA outside London, and the most challenging in terms of health deprivation, health inequalities, and impacting demographic drivers NHS North West, (2009). The North West needs to be equipped to address and improve health amongst challenges which include:

- a nine year life expectancy gap between the best and worst local authorities
- more than 6 out of 10 adults classed as overweight or obese and only 11% of adults are physically active
- an NHS workforce that does not reflect the diversity of its local communities at all levels and professions

The NHS Workforce Review Team's (2008) review of the demand for dietitians indicated this demand is likely to increase over the next five years. The team claims this is due to the incline of stroke, cancer, obesity, diabetes, the ageing population, disease management, public health in the community and in schools, and the need to educate the public to adopt a healthier lifestyle. This, along with the challenges identified, reflect the need for the North West area to have a competent, robust dietetic healthcare workforce.

1.4.2 Workforce Planning

NHS North West in 2009 drew up a workforce, education commissioning, and education and learning strategy, with key stakeholders to support and facilitate the attainment and development of a workforce capable of delivering world class healthcare (NHS North West, 2009).

Workforce planning for the NHS Northwest is a large undertaking, as in the North West region alone the NHS employs approximately 14,410 Medical and Dental staff and 181,379 non medical staff**.**

> **Over £12 Billion is spent on healthcare within the North West each year with approximately 60% of recurrent NHS provider costs relating to workforce, and around £650 million per annum is spent on workforce training, professional development and workforce development (NHS Northwest, 2010. p.9).**

Therefore, delivering and deploying a competent, skilled workforce across the 24 Primary Care Trusts in the North West is essential as the NHS enters one of the most financially constrained and challenging political, economic,

sociological, technological, legal and environmental (PESTLE) environments in its history, NHS Northwest (2010).

Education commissioning focuses on the workforce supply in response to the demand, in this case for appropriate numbers of dietitians to meet the needs of the population's healthcare requirements. The vision of the workforce, education commissioning and education and learning strategy, NHS North West (2009), is that education commissioning in the North West should aspire to match the key elements of world class education commissioning as depicted in Figure 1.

Figure 1. The key elements of world class education commissioning (NHS North West, 2009)

1.4.3 Employability

Employability is defined by The UK's Enhancing Student Employability Co-ordination Team (ESECT) as "a set of achievements, skills, understandings and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupation" (Yorke and Knight, 2006, p.8). It is recognised that while many graduates still value the structured, predictable opportunities traditional university programmes offer, employability is a concern and suggests graduates have an awareness of the importance of their own skill development, and transferable skills as well as academic ability, (Cox & King, 2003). The CBI (2009), in agreement with ESECT claims employers are now focusing on the importance of key transferable skills that makes graduates stand out in terms of recruitment and employability.

Unistat figures from 2011 showed 80% of University of Chester nutrition undergraduate students and 95% postgraduate students were employed with graduate jobs post completion of their programmes of study. Students report 84% satisfaction rate with the quality of the undergraduate programme (postgraduate data was not collected) from the National Student Satisfaction Survey 2011 (http://unistats.direct.gov.uk/retrieveColleges_en.do).

The majority of the dietetic programme graduates from the University of Chester (59% of both postgraduate and undergraduate programme students) are employed within the North West region, according to the student registry data

held by the University of Chester. For the 59% postgraduate students, 76% were reported to be community based posts, 24% within the acute sector, and 1% non-NHS providers. For the 59% undergraduate students, again, there were greater numbers entering the community setting – 71%, with 29% acutely based and no non-NHS provider posts reported.

Due to the current service reconfigurations aiming to prevent hospital length of stay and admissions, (NHS Institute for Innovation an Improvement, 2008), this higher percentage of community based posts is in line with service and workforce need.

2.0 LITERATURE REVIEW

The literature review investigated whether dietetic programmes meet the needs of both dietetic graduates and NHS dietetic department managers. The review was completed in 2 parts; Part 1 of the search was performed on the NHS Evidence Portal, Google Search, Google Scholar and the Trip Database (the Trip Database searches sources of clinical evidence). NHS Evidence is a search engine that provides a simple source of a range of clinical and social care information.

The second and key part of the search was performed on books and journal databases and the Cochrane library. The search showed there is limited evidence for the study of dietitians readiness to practice on completion of their dietetic programmes, (unsurprisingly given the small number of courses delivered in the UK) as well as their employability skills.

The majority of the research found was Canadian, Australian and USA-based, ranging between 1992 and 2009, which showed a gap in UK-based research. Educational experiences, employability, clinical placements, interprofessional learning and education, and problem-based learning, were predominant themes throughout the literature search findings.

2.1 Educational Experience

Professional education introduces concepts and learning via a range of teaching methods as well as prepares graduates for continuing professional development (Higgs & Edwards, 1999). Tougher-Decker (1998) identifies educational programmes as fundamental in preparing practitioners for future practice, “if educational programmes limit their focus to preparation for practice today, practitioners will not be prepared for practice tomorrow” (p.535). These findings supported earlier research by Gibson and Ryan who suggested that the revisions in curricula should include more emphasis on case and problem-based learning, multi skilling, cross-training, and clinical simulation, in order to enhance student and graduate services and marketability by expanding their skills.

In a study that investigated the preparedness of practitioners for practice, Tougher-Decker (1998) concluded it is the duty of education programmes to provide students with the knowledge needed to facilitate their skill development. Educators have the challenging opportunity to integrate these skills into their programs, as well as to develop outcome orientated competencies and goals to meet the needs of dietetic students.

Puckett (1997) also identified the need for additional education as part of a dietetic training programme in order to meet the increased demands in the workplace as a 21st century dietitian. Puckett's findings, from face-to-face interviews conducted with 33 dietetic practitioners, students, educators and, administrators and leaders in the food service industry, showed 30 respondents agreed that education/competency of dietetics practitioners was not keeping pace with healthcare/industry changes. Interviewees in this research indicated that course-work, in many instances, did not prepare practitioners to meet current challenges. This was reported to be due to a variety of factors including out-dated materials and technology, lack of food and nutritional experience on the part of lecturers, and lack of respect for dietetics in comparison to other health professions.

All of the interviewees stressed the need for more emphasis on management and business skills and the ability to communicate and interact with a diverse group of people. The emphasis on business skills could potentially be found to be less relevant within dietetics in the UK however, particularly as the majority of dietitians are employed within the NHS setting. Phillips, Ash and Tapsell (2000) claims skills in management and communication is needed for new graduates to meet the demands of a variety of new work contexts. This therefore raises the query whether graduate dietitians and dietetic managers in the UK agree with the findings of Puckett (1997) and Phillips et al. (2000), in relation to the need for additional emphasis on additional business and management skills.

Furthermore, all of the 22 dietetics practitioners, students, and/or educators (this didn't include the leaders in the food service industry or administrators from the 33 interviewees) expressed concern for the future of the dietetics profession unless some changes are made in the degree curriculum and practitioners' ability and desire to envision a larger picture or role for them. Puckett concluded that changes in practitioners' formal education must be developed with the view that education is a lifelong process.

Rose, McAlpine, and Strychar (2005), based on Elliott (1992), proposed that acceptable professional practice for dietetics trainees requires two characteristics if entry-level competency is to be achieved (in this study competency refers to preparedness to practice). Firstly trainees need to experience active participation (sufficient depth of learning opportunity) and secondly, they must have exposure to a variety of contexts or cases (sufficient breadth of learning opportunity). Elliott (1992) conducted a small scale research project in developing competency based police training curriculum in an unpublished report for the University of East Anglia. Elliott's perspective on professional education and practice can, according to Rose et al. (2005), also be applied to the field of dietetics.

Elliott stated that sound professional education and performance must include the capacity to make sound professional judgements in a variety of contexts, to

receive and monitor continuous feedback from the environment and to adjust performance accordingly.

Based on these findings, it can be claimed it is of benefit for students to have exposure to these opportunities within their programmes. Rose et al. (2005) conducted a survey to collect data on pre registration dietetic practice from dietetic trainees and their programme coordinators. The aim was to provide a new framework to assess learning opportunities for developing entry level competence. This study had a high response rate of 54% of the 313 dietetic trainees issued with questionnaires, and 72% for dietetic programme coordinators (from 32 coordinators).

Preparedness was rated as “well prepared” or better for 56% of the 45 main competencies assessed. Learning opportunities were rated as sufficient in depth and breadth or number for 61% of the 145 total competency statements, and low ratings for preparedness were accompanied by low ratings for depth and/or breadth or number of learning opportunities. The idea that depth and breadth of learning opportunities are important in preparing dietitians for practice is therefore supported by these findings. Rose et al. (2005) also commented that trainees were perceived to be less than well-prepared in some management skills which Puckett (1997) had also identified, in terms of relevance to practice.

A later study in 2009 by Atkins and Gingras investigated how undergraduate education constitutes professional identity and reported first and final year students experiences of their identity, education, and preparation for practice. This research was guided by a phenomenological approach- a qualitative human science enabling researchers to seek understanding through people's experiences within specific interpretive contexts, Van Manen (cited in Atkins & Gingras, 2009). This phenomenological approach enabled student experiences to emerge during semi structured interviews which were adapted from previous research in the areas of dietetic identity, education, and professionalisation. A common theme that emerged for both first and final year students was disembodiment, which refers to self-alienation or a loss of relationship with the self, as a necessary aspect of dietetic professionalisation.

Atkins and Gingras (2009) suggested that these research findings had implications for recruitment language, professional practice curricula, faculty development, the methods of teaching and learning, and the type of support offered to students starting or finishing their education. Research into dietetic identity, education, and professionalisation all require institutional support and the dietetic classroom is a vital place of learning about students and educators experiences. A further conclusion of Atkins and Gingras (2009) claimed translating these experiences into new programmes, enhanced curricula, and revitalised learning holds dynamic potential for the future of the dietetic profession.

2.1.1 Interprofessional Education

Teaching methods identified as valuable by graduate dietitians for their future practice include both Interprofessional Education (IPE) and Problem Based Leaning (PBL) (Horacek, Brann Erdman, Middlemiss, & Raj, 2009; Whelan, Thomas, Cooper, Hilton, Jones, Newton, O'Neill & Gill, 2005; Winter, Matters, & Nowson, 2002).

Interprofessional Education according to the Centre for the Advancement of Interprofessional Education (CAIPE), “occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care” (CAIPE, 2002). CAIPE uses the term (IPE) to include all such learning in academic and work based settings before and after qualification. IPE outcomes include increased student awareness of the importance of teamwork, enhanced ability to interact with other healthcare professionals, (Allen, Penn, & Nora, 2006; Bjorke & Haavie, 2006) and improved medical nutrition therapy outcomes research (Gardner, Rall, & Peterson, 2002; White, Bielak, Rogers & Lennon, 2003).

It is accepted, in the current health-care environment, that dietetic students must develop a competence for building professional partnerships while mastering the core knowledge and skills competencies, (White et al. 2003). Mandatory

teamwork between various healthcare professionals suggests the need for an interdisciplinary approach to education, (Brehm as cited in Horacek et al. 2009). Therefore, many universities have implemented inter professional education for a variety of health programs, (Allen et al. 2006; Bjorke and Haavie, 2006).

In addition, several authors demonstrate that participation in Higher Education learning communities (LC) increases learning outcomes, student satisfaction, retention rates, critical thinking, communication skills, and self-understanding, (Lenning, Ebbers , Zhao & Kuh, as cited in Horacek, 2009). An LC is a group of people who share common emotions, values or beliefs are actively engaged in learning together from each other, and by habituation (Goodyear, Laat, & Lally 2006). In agreement with these authors, in order for dietitans to thrive in an ever-changing healthcare environment “students should be sensitized to the community and the world in which they live. They should understand the cultures and needs of the people with whom they will interact” (Braverman, 1995, p.10).

Horacek et al. (2009) describes the successes, barriers, and effectiveness of an interprofessional LC with integrated service-learning experiences. Service-learning offers students’ opportunities to learn in the classroom and the wider world, directly interacting with local agencies to effect change in the community (Knapp & Fisher, 2010). The LC included academic, social, cultural, interprofessional, and service-learning experiences. Discussions focussed on

cultural awareness/competence, policy advocacy, and global health and disparity issues. Findings from the study via self-assessment survey showed the interprofessional LC students rated themselves as using the most appropriate communication techniques both pre- and post semester, indicating they were open-minded, respectful and attentive.

Horacek (2009) reported that students found the interprofessional atmosphere was the most helpful aspect of the LC experience and contributed toward their development as a professional. In terms of scope of practice, they learned to identify whom they should be referring clients/patients and where it would be advantageous to have multiple disciplinary perspectives to best solve a problem.

In agreement with these findings, a systematic review of 30 evaluations of pre-registration IPE found that it had beneficial effects on students' knowledge, skills and attitudes (Cooper, Carlisle, Gibbs, & Watkins, 2001). However, there was little evidence that this translated into students' practice, but, as stated by Cooper et al. (2001) this perhaps reflected the short-term follow up periods rather than an absence of any effect.

Evaluations of pre registration IPE that have included student dietiitans report positive attitudes towards interprofessional team-working. Examples include a clinical placement IPE course in the UK, (Young, Mitchell, Sensky, & Rhodes,

2003), and an interactive patient case study course in the US involving students of dietetics and physiotherapy (Smith & Christie, 2004).

Whelan et al. (2005) conducted a study which considered the reaction of first year undergraduate IPE course students in order to stimulate debate between dietitians regarding the issues relating to IPE. This paper represented the largest published evaluation of student dietitian reactions to IPE so far. Student evaluation questionnaires following lectures and workshops showed more student dietitians rated the interprofessional sessions positively than negatively for interest value, learning experience and value for clinical practice. This was statistically significant, except for one of the sessions regarding autonomy, (Whelan, 2005). There were no significant negative ratings reported. It is questionable whether a control group of students who received the same teaching content (e.g. all dietitians or other health professionals), would have resulted in finding out if these positive ratings were specifically due to IPL.

2.1.2 Problem Based Learning

Problem Based Learning (PBL) has been defined as “an instructional strategy in which students identify issues raised by specific problems to help develop understanding about underlying concepts and principles” (Spencer & Jordan, 1999, p.1282). Literature reviews of PBL indicate that it is judged by students and faculty to be effective, enjoyable and successful in meeting its objectives,

(Albanese & Mitchell and Norman & Schmidt, as cited in Winter et al, 2002).

Advantages of PBL include a more productive learning environment, promotion of deep learning (actively seeking understanding, rather than surface learning which encourages students to merely reproduce what has been learnt), and development of self-directed skills such as; formulation of goals, identification of resources, activity implementation and outcome evaluations, as well as promotion of knowledge retention, and improved motivation, (Spencer & Jordan, 1999). In contrast, Davis & Harden (as cited in Winter et al. 2002), contradicts these claims relating to knowledge retention, stating the disadvantages of PBL include students failing to develop an organised framework for their knowledge. However, this could be related to the loss of interaction with inspiring teachers, and educators lacking the skills to effectively facilitate PBL.

Winter et al. (2002), adopted a group learning model using PBL to deliver the clinical component of the Master of Nutrition and Dietetics course at Deakin University, Melbourne, Australia. The impact of the new approach was evaluated using student questionnaires, academic and competency outcomes and a focus group assembled with hospital supervisors. All 35 students (100% response rate) completed and returned the questionnaire. Results showed the most common response to the best aspects of PBL was working in groups, trigger cases, and the style of learning. Worst aspects were that the university sessions could have been better structured, and insufficient time spent on some topics

and uncomfortable tutorial rooms.

There was no difference in the final academic results of the students compared with the previous year. However, at completion of the final eight-week clinical placement, four of the 35 students required additional placement time to reach competency as assessed by their clinical supervisors. In comparison, seven of the 33 students did not achieve competency at the equivalent time in 1999, therefore this shows there was a reduction in additional placement time required with the use of PBL. Winter et al. (2002) findings indicate students rated their learning using the PBL approach highly. This is consistent with the literature; findings reported by Saarinen-Rahiika et al, 1998, and Knowles and Bruhn (as cited in Winter et al 2002).

2.1.3 Objective Structured Clinical Examination

The objective structured clinical examination (OSCE) is defined by Mavis, Henry, Ogle, and Hoppe (2006), as a series of timed clinical assessments through which students rotate. It allows pre-registration students the opportunity to practice key clinical skills prior to clinical placement and test skills acquisition. Pender and de-Looy (2004) go onto describe the experience of increasing the emphasis placed on skill development in the learning programme delivered to undergraduate, pre-registration dietetic students prior to clinical placement

experiences. Results showed students who failed in at least one of the skill areas tested (in this case 11%) performed similarly during clinical placement. Questionnaires returned by students reported that the clinical skills programme heightened awareness in key skills necessary for the competent practitioner and that the OSCE was generally a positive experience. The project team concluded that both the clinical skills programme and the OSCE assisted in the development of the skill base of the student, and further, diagnosed skill weakness (Pender and de-Looy, 2004). This alerted the student to their ability to perform key skills and assist in development of proficiency. The positive responses of both students and practitioners involved, reinforced the importance of the OSCE as an innovative approach in developing appropriate attributes in student dietitians, with potential to continue making the best use of learning into first posts and beyond.

2.1.4 Clinical Placements

In traditional education, there is an assumption that health care practitioners are competent and fit to practice, having completed final written examinations, and are ready to start working with patients immediately Pender and de-Looy (2004). However, it is widely recognised that the relationship between demonstrating competency in examinations and behaviour in actual practice appears at least to be questionable (Rethans, Sturmans, Drop, van der Vieuten, & Hobus, 1991).

Clinical placements are a compulsory part of dietetic training delivered during various stages of the programme. They are aligned alongside the theoretical learning to put into practice the taught elements of the programme. By the end of the placement experiences in each of the three years, students are expected to have achieved the required skills and on completion of the final placement are also expected to be managing a case load similar to that of a graduate dietitian.

Having placements provides varied findings in terms of undergraduate education and job satisfaction. Rose et al. (2005) and Wright (2009) state allied health students participating in clinical placements report more positive perceptions of their preparedness for practice than those who do not have clinical placements. Pender and de-Looy (2004) agree, from personal observation and unpublished data, that the nature of failure in dietetic students in recent years is not attributed to poor knowledge gain or even understanding, but to poor skill performance or the development of an inappropriate attitude.

Some dietetic courses delivered in other countries, such as the University of North Florida USA, offer internships via distance learning. Wright (2009) reports despite the fact there was no significant difference in pass rates on the registration exam between long distance internship and traditional route programme students, there was a difference in graduate survey results for their preparedness for practice. Traditional route graduates ranked themselves as

higher on their ability to communicate, provide nutrition therapy, their clinical judgement, independence, and work ethic than distance learning graduates. There were no significant differences between graduates on ability to counsel patients and ability to manage food service systems. Traditional internship graduates rated themselves significantly higher in most constructs of preparedness for practice. This was echoed by their supervisor's rankings of preparedness for practice, which was also higher for the traditional route students.

Satisfaction of dietetic graduates from the University of British Columbia with their undergraduate education and current job was studied by Barr and Russell (1992). Overall job satisfaction was reported by 89.6% of respondents with regards to undergraduate education, respondents were most satisfied with library resources, class size, and quality of teaching and least satisfied with their internship opportunities. Those who had placements were significantly more satisfied with their undergraduate education than those who had not.

Clarke (2010) when evaluating University of Chester graduate reflections on learning experiences from clinical practice placements in dietetics, found significant differences between satisfactions with the timing of the first clinical placement. Significantly more postgraduate students reported greater satisfaction then undergraduates. Postgraduate programme students have their clinical first clinical placement in the first year of the 2 year programme, while

undergraduates have their first clinical placement in the 2nd year of the 4 year programme. Interestingly, despite postgraduates being more satisfied with their placement timings, they reported significantly lower levels of preparation than undergraduates for their first dietetic post. A limitation of this study was that it did not take into account the university tutor or placement supervisor opinions, which could make the findings limited.

2.1.5 Work-Based Learning

Brown, Hartes and Warnes (2007) share practice on the findings of how two approaches to work-based learning (WBL) develop the knowledge and skills of both Nursing and Allied Health Professional staff with different levels of experience and educational attainment, for the purposes of curriculum development. The study aimed to compare approaches to WBL to illustrate its flexibility and show how very different educational needs can be met through its use.

The two groups of students focused on in the study were; entry -level full-time healthcare workers (health care assistants in nursing, physiotherapy, occupational therapy, and dietetics) using WBL as part of a foundation-level degree. These students utilised an affirmative model of WBL, which is concerned with the development of a skilled workforce that meets existing needs. This model of WBL means students skills are identified as competence

statements and curriculum developers are transparent in the required knowledge and skills of students. This type of WBL model is what UK dietetic students (including the University of Chester students) currently adapt as part of their clinical training via placements.

The second group of students are knowledgeable, experienced and professionally qualified staff undertaking postgraduate programmes utilising WBL. The model they utilised is known as the transformational model, concerned with change in the workplace. The end-points of WBL evolve through engagement of the learner within the work setting (Brown et al. 2007). The use of this model moves away from the traditional didactic teaching models seen in higher education. One model is not suggested to be superior to the other model, and both models are needed to meet workforce development needs.

However, in relation to the need for the WBL models, in 2006 the Chief Nursing Officers report (as cited in Brown 2007) stressed the need for the nursing workforce to develop, claiming a goal of health care and education agencies should be to promote a pattern of leadership that puts patients first. It is against this need to improve the quality of work-based provision and meet employer's needs in the NHS the two afore mentioned models were developed. As the annual employer satisfaction survey results have previously indicated that leadership is a skill/quality with a low rating for University of Chester's dietetic

graduates, a move to this transformational model could potentially improve these findings if adapted into future programme curriculum development.

2.2 Curriculum Development

The challenge to educators is to devise a curriculum that encourages students to use skills to access their increasing knowledge base, without presenting the student with unnecessary factual overload. The major aim of practitioner education is to enable students to develop good decision-making and clinical judgement via clinical reasoning (Moore, 1996; Round, 1999). The movement away from traditional, knowledge -driven programmes towards programmes of study that emphasise skills and develop desired attitudes is therefore grounded in academic and practitioner theory (Mason & Atree 1997). In addition, Epstein and Hundert (2002) claim the challenge facing educators of students entering clinical placements must therefore be to design curricula with a balance between knowledge and understanding, skill, and attitude development.

In 2010, Ruth Kershaw, a Practice Educator Lecturer in the Dietetic Cluster within the school of Human Sciences at London Metropolitan University, in keeping with Eipstein and Hundert (2002), commented about challenges for educators relating to students clinical placements. Kershaw produced a paper outlining how a holistic, situational model was utilised to redesign a two-week clinical placement module to facilitate application of theory and development of

core professional attributes based on pre-existing learning outcomes (see Figure 2). The model used was a situational model by Prideaux (2003), (acknowledging the work of Malcolm Skilbeck) which defines curriculum designers roles and what the curriculum covers. Student experiences are central to the process, which is comparable to the University of Chester's dietetic programmes as they also utilise a student-centred approach to programme delivery.

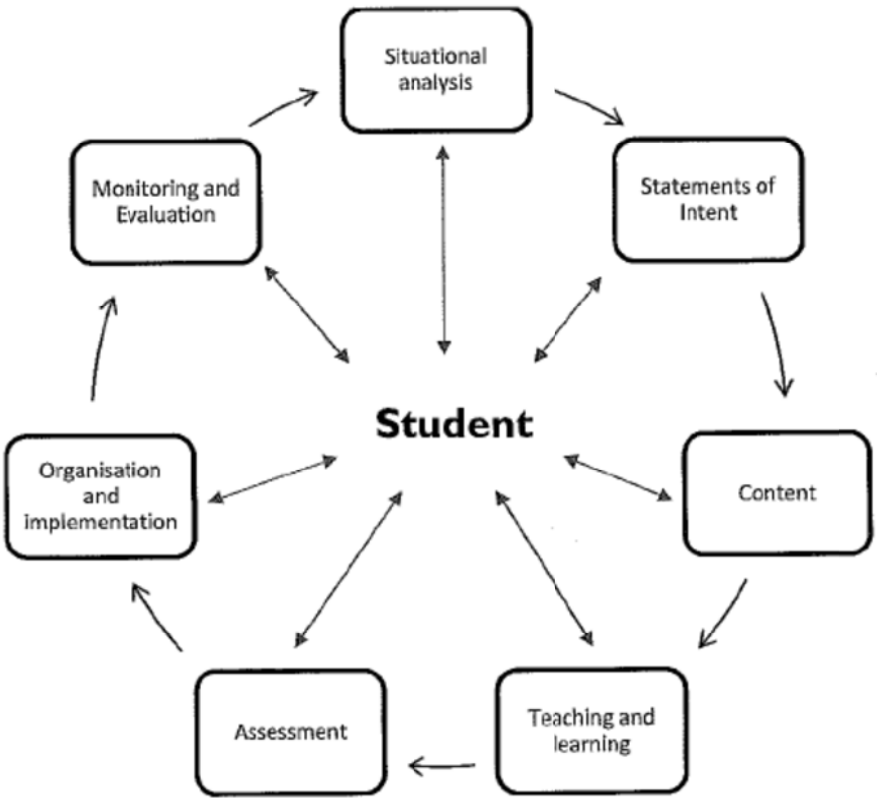

Figure 2 . A descriptive curriculum map adapted from Prideaux (2003)

Braverman (1995) suggested that colleges and universities, in light of shrinking human and financial resources, would be challenged to educate dietetic

practitioners for new, yet undefined practice. Preparing for success in tomorrow's workplace will require educators defining the skills students need to be prepared for practice. Braverman (1995) also goes on to claim educators will be forced to answer some pressing questions about curriculum planning around what dietitians do that is unique and will continue to be so, and the skills needed to be added to make dietitians more marketable, as well as what in the curriculum offered is out of date.

> **Uniquely, dietitians use the most up to date public health and scientific research on food, health and disease, which they translate into practical guidance to enable people to make appropriate lifestyle and food choices. (BDA, 2010, p.2).**

Dr Julie O'Sullivan-Maillet (as cited in Braverman, 1995) suggested that educators should continue to prepare broadly educated, creative, critically thinking individuals who are capable of change and professional growth. Maillet suggested practitioners be taught how to obtain, evaluate, and use information and that they be instilled with a sense of inquiry. These, Braverman (1995) claims, are the hallmarks of excellent higher education.

2.3 Employability

From the literature findings, one study contained particular similarities in its design and research aims to the planned research. This was based on graduate self perceptions of their readiness to practice, and employers' perceptions of this readiness to practice and their employability (Karp & Lawrence, 1999). This American-based study evaluated the competency of entry-level dietitians based on employer ratings and self-ratings of graduates in dietetics. Both employers and dietitians used the Likert scale to score their perceptions of their competency based on questionnaires which are based on core competencies for entry-level dietitians. Results showed employers' responses to the questionnaire exceeded both "competent" and "highly competent" rating on the instrument scale, whilst the dietitians rated themselves as "competent" at entry-level. This response by dietitians is in line with the novice-to-expert succession for dietitians (Chambers, Filmore, Maillet, & Mitchell, 1996). Differences between the employer and graduate ratings, reflect a tendency for employers to rate graduates at the same or higher level than graduates rate themselves, as observed by Kraft and Hagan (as cited in Karp & Lawrence,1999).

In summary, it appears that the majority of dietetic curriculum research to date has been based outside of the UK and there is a recognised shortfall in current literature. The aim of this study is to explore whether the University of Chester's pre-registration dietetic courses adequately prepare graduates for employment

as a newly qualified dietitian, and if employer perceptions of this readiness for practice match those of graduates. The findings will aid future curriculum development for the University of Chester dietetic programme, as well as affirm current positive programme curriculum content.

The objectives of the research are:

a) To investigate whether the University of Chester's dietetic programmes meet NHS dietetic managers needs.
b) To investigate whether the University of Chester's dietetic programmes meet dietetic graduates needs.
c) To evaluate NHS dietetic managers and dietetic graduates needs in relation to the dietetic programmes provided by the University of Chester.

The research hypotheses are as follows:

H_1) The dietetic programmes offered at the University of Chester meet the needs of NHS dietetic managers.
H_2) The dietetic programmes offered at the University of Chester meet dietetic graduate needs and prepares them for the dietetic workforce.

3.0 METHODOLOGY

This research is an evaluation of the dietetic undergraduate and postgraduate programme provision at the University of Chester in relation to both students' expectations and NHS dietetic department managers' needs. It aims to guide future curriculum development and provision, ultimately improving employability. Data was collected via postal and electronic questionnaires to both undergraduate and postgraduate dietetic students, and one-to-one semi structured interviews with dietetic department managers. This chapter will aim to provide a transparent research strategy, chosen research methods and their justification, and data analysis descriptions.

3.1 Study Design

The design of the research was a descriptive, cross-sectional survey, based on postal and electronic questionnaires to graduate dietitians from the University of Chester, and semi structured one-to-one dicta phone recorded interviews (one was via telephone) with managers of dietetic departments in the North West region. The time-frame was retrospective for the graduate questionnaires but both retrospective and contemporary for managers.

3.1.1 Graduate Questionnaires

The questionnaire sent to graduates (See Appendix 1 for graduate questionnaire and Appendix 1a for graduate questionnaire rationale) was based on the annual employer satisfaction questionnaire distributed to dietetic employers by the University of Chester (See Appendix 2) as well as the University of Chester's programme specifications for both the BSc (Hons) Nutrition and Dietetics and MSc Nutrition and Dietetic programmes, and the key/transferable skills and character attributes identified as needed to achieve their dietetic qualification.

This was deemed an appropriate choice of data collection tool as the research aimed to identify consistencies with both undergraduate and postgraduate student responses in their opinions of readiness to practice on completion of the dietetic programmes offered by the University of Chester.

The questionnaires provided within the research were self-completion questionnaires. Kumar (2005), reported self-completed questionnaires had several advantages, including cost effectiveness, time efficiency, and absence of interviewer effect and variability, as well as convenience for respondents. Although Bryman (2001) identified that self-completion questionnaires could take a number of weeks to be returned (if at all), they are time efficient as large quantities can be distributed at the same time in one batch. Another advantage

of self-completion questionnaires, identified by Bryman, was that the characteristics of interviewers and respondents such as gender, ethnicity, and social background, would not bias respondents thus improving validity.

To reduce the potential disadvantage of not being able to elaborate (probe) respondents answers, particularly with open-ended questions, these were kept to a minimum within the self-completed questionnaires. One of the main concerns with utilising questionnaires was the fact that there could have been a low response rate similar to those recorded in their postgraduate research experience survey by Park, Hanbury, & Kulej in 2007. This suggested that there could have been a risk of bias or skewedness in the current study, as it is possible that there may have been differences in responses between those who participated and those who did not. In anticipation of this, a pre-paid envelope was included for return of questionnaires.

The questionnaire consisted of predominantly quantitative closed questions with two qualitative open-ended questions. Closed questions provided the advantage of reducing interviewer variability, and facilitated processing the data. Open-ended questions used in the questionnaire and during the one-to-one interviews with dietetic department managers were appropriate as they could be answered in the responders own terms and allowed responses to be made which may not have been contemplated or identified by the closed questions. Another advantage of using closed questions is they were quicker to answer than a

written response; therefore less time was needed by respondents to answer which was an attempt to improve the completion rate. Open questions were kept to two within the questionnaire, again to encourage responses (See Appendix 1, Questions 5 and 6).

The Likert scale was used to rate the answers of respondents in the self-completion questionnaire. The Likert scale was deemed suitable for use in this research as the Likert scales have been used previously in questionnaire-based studies with dietetic students (Brennan & Lennie, 2010; Robinson, 2011). As the questionnaire was based on one previously used extensively by the University of Chester, it was therefore considered to be valid.

3.1.2 Interviews

Semi structured interviews with dietetic department managers were guided by the results and findings from the 2010 and 2011 annual employer satisfaction questionnaire (See Appendix 3). In particular the questionnaire responses that achieved low ratings for certain skills such as; being a team player, knowledge base, professional attitude, and managing change. The questions were informed by recommendations made from department managers in relation to strengthening the programme to steer the flow of the interview and elicit opinions.

Semi structured interviews were deemed as an appropriate choice for the study, as the order of questions could be modified to ensure fitness of purpose for questions asked. This also allowed wording of questions to be changed or even omitted if the interviewer felt it was necessary (Robson, 2002).

The interviewer kept to a minimal role, initially thanking the manager for agreeing to participate and reiterating the interview was anonymous and recorded. As identified above, the core questions asked were based on the annual employer satisfaction questionnaire findings (See Appendix 3) and occasionally follow-up sub-questions or prompts and probes were used to control the direction of the interview. Silences were accepted, and where

needed these were used as a tool to elicit thoughts and opinions from the interviewee.

The questions were designed to avoid bias, and the interviewer was careful to avoid being judgemental in relation to the topics covered. This was achieved by trying not to react via facial gestures or inferential voice tones, as recommended by Denscombe (2010).

However, it must be recognised that in this research of this type, the interviewer has a degree (subconsciously or otherwise) of reflexivity. Reflexivity suggests that the researcher cannot possibly be entirely objective in their study of the social world.

> **Inevitably, the sense we make of the social world and the meaning we give to situations and events are shaped by our experiences as social beings and the legacy of the values, norms and concepts we have assimilated during our lifetime. (Denscombe, 2010, p.325)**

As the interviewer was a graduate dietitian from the University of Chester's postgraduate dietetic programme, reflexivity was a reality.

One-to-one interviews are deemed by Hek & Moule (2006) to be commonly used data collection technique involving gathering information through verbal

communication. The interview can then be used in qualitative research, to collect in-depth information from which theory can be generated. Despite the disadvantages of interviews, the advantages of interviews outweighed these as they are less structured, and allowed for further depth by probing into the annual employers satisfaction questionnaire findings. Therefore interviews were felt appropriate to warrant their usage. As the geographical area was only in the North West region, travelling and cost were kept to a minimum.

Much of the analysis conducted in qualitative enquiry can generally be described as “thematic” because it involved identifying, analysing, and describing patterns within data (Braun & Clarke, 2006). Holloway and Wheeler (2010) discuss a number of processes in the analysis of qualitative data. Throughout interviews, data was transcribed word for word with themes, patterns, and concepts, emergent throughout. A phenomological approach towards these one to one interviews was used, and analysis performed in keeping with Colaizzi's procedure of analysis (as cited in Holloway & Wheeler, 2010). Colaizzi’s procedural steps are as follows:

1. All interviews are transcribed verbatim and read in order to get a feel for them.
2. Significant statements and phrases that pertain to the experience under investigation are extracted.
3. Meanings are formulated from these significant statements.

4. Significant statements are organised into clusters or themes.
5. The themes are used to provide a full description of the experience.

The in-depth nature of qualitative research and the subsequent analysis does dictate that sample size should be small and selective (Cormack, 1996). In agreement, the literature suggested that no more than ten respondents should be used to ensure the study is manageable (Creswell, 1998). It is important to acknowledge, however, that sampling should continue until theoretical saturation has been achieved, i.e. when no new themes emerge and concepts begin to repeat (Braun & Clarke, 2006; Burns & Grove, 1997). The designated number of interviewees used in the current study, was decided in acknowledgement of the time-commitment of both the participants and the researcher.

3.1.3 Mixed Methods Research Approach

A mixed methods approach was used for this research. In 2003, Rocco, Bliss, Gallagher, and Pérez-Prado, claimed that mixed method approaches were so fundamentally different that they should not be mixed in a single study. In contrast, Hanson and Grimmer (2007) strongly advocated the use of mixed research methods. A reason for the use of mixed methods in this research was to provide a more complete picture of the University of Chester's dietetic

programmes, and produce robust data and findings. Karp and Lawrence (1999) in support of using mixed methods research, identified that effective evaluation programmes are multifaceted and competency surveys should be supplemented with other evaluation tools, such as course and curriculum assessments by students and faculty. However, as identified earlier, time restraints impacted on the ability to include faculty in this research.

Independent Variable:

- The content of the pre-registration undergraduate and postgraduate dietetic programmes offered at the University of Chester.

Dependent Variables:

- Employability is enhanced on completion of the University of Chester's dietetic programmes
- Dietetic graduates meet the needs of dietetic department managers and dietetic workforce on completion of the University of Chester's dietetic programmes
- Graduates perceive themselves to be fit for practice on completion of the University of Chester's dietetic programmes

It is accepted that confounding variables present in the current study included; gender, age, and previous employment. Although it is acknowledged this could

limit interpretation of results, in order to limit their effect this data was not requested in the questionnaire.

3.2 Population and Subjects

Non-probability sampling techniques (not using random selection methods) were used to collect the information from the target population (graduate dietitians from the University of Chester's undergraduate and postgraduate dietetic programmes) which according to Hek & Moule (2006) is a convenient and cost effective method. As the study population were graduate dietitians, this achieved external validity, which is the degree to which the results can be generalised.

Non-probability sampling technique was reasoned appropriate (Maykut & Morehouse; Singleton, as cited in Phillips, 2010) due to its application in qualitative research to capture the political climate (which relate to the relationships between people and issues of power, class, etc) of an occupation, with the aim of gaining insight into a situation rather than proving a probability-based hypothesis. This sampling method has been utilised successfully in other reviews of Australian dietetic practice (Tapsell, as cited in Phillips, 2010).

The number of graduates from the undergraduate dietetic programme sent questionnaires were 56, and postgraduate dietitians 162 (there were no contact

details available for 13 of the undergraduate students and 8 of the postgraduate students).

Inclusion Criteria:

- Graduates from the University of Chester's postgraduate and undergraduate dietetic programmes, irrespective of current work location, since commencement of both programmes (2004 and 2007 respectively).
- NHS dietetic department managers in the North West region.

Exclusion Criteria:

- Graduate dietitians not working as dietitians post qualification.
- Graduates with no contact details available to the student registry.

Rationale for the inclusion and exclusion criteria was to ensure the responses are by dietetic department managers in the North West region and those working as dieititans after graduation from the programme, to meet the research objectives. The NHS sector was chosen as the comparison between managers and dietitians can be made.

Verification of these inclusion criteria will be possible to be identified on the graduate questionnaire which requests the "Band" currently working at (See Appendix 1, Question 1). The dietitians "Band" refers to a NHS level of employment/grade in relation to the experience and knowledge of the employee

(i.e. graduate dietiitans start at a Band 5, progressing to Bands 6 and 7 once relevant specialist experience and management skills are achieved).

3.2.1 Validity and Reliability

While it is acknowledged that non-random sampling can affect external validity, it does not necessarily affect reliability. Therefore, the research design was considered appropriate.

3.2.2 Sample Size

A power calculation was performed to establish the number of responses required from the questionnaire to provide meaningful and significant findings (See Appendix 4). Calculations for graduate sample size were performed prior to the study, using the G* software package. This calculation takes into account the standard significance figure of $p<0.05$, and power set at 80% (which is the minimum percentage required to detect differences, as well as mean differences between the groups), as well as the standard deviation figures taken from previous dietetic research in order to justify the sample size.

The sample size required was increased by 10% to account for non-responders to the questionnaire. Total sample size was therefore 56 between the 2 groups (28 undergraduates, and 28 postgraduates).

3.2.3 Ethical Approval

Ethical approval was requested and granted on the 31st October 2011 from the Faculty of Applied Sciences Research (FREC) at the University of Chester (See Appendix 5).Confidentiality was achieved as questionnaires were not identifiable. Manager's trust names were not identifiable from the interviews.

The issue of a conflict of interest in the initial ethics application was addressed by employing a research assistant to collect the postgraduate student questionnaires (as the researcher is a previous University of Chester postgraduate dietetic student).

Further approval was granted in February 2012 (See Appendix 6 for the FREC Approval Email) for graduates to also be emailed the questionnaire by administrative staff for the Clinical Sciences Department (See Appendix 7 for the Electronic Cover Letter for the Graduate Questionnaire). This was due to the fact that inadequate initial responses were returned from the postgraduates through the postal questionnaires alone.

Each interview was allocated a number in order to retain anonymity and data collected from manager interviews was anonymous, as agreed in the ethics application. This anonymity was confirmed both verbally to managers at the beginning of the interview, as well as within the managers' invitation to

participate in an interview, along with a participant information sheet, and consent form (See Appendix 8). This confirmation of anonymity was in order to improve agreement to participate, as it was acknowledged that the managers may have been reluctant, or their answers influenced if the trust was to be identified in the research. Anonymity of the manager responses also meant reduced likelihood of dietetic employees who are University of Chester graduates reading the research findings and feeling these comments were aimed towards them.

Participant information sheets were sent out with the graduate questionnaires (See Appendix 9). Informed consent was obtained from graduate participants by their opting to complete the questionnaires they had been sent. A two-week time frame to return completed questionnaires and agreement to participate in an interview was given.

3.3 Procedures

Dietetic programme graduates were identified by Clinical Sciences Department administrative staff via the student registry. The administrative staff then used this information to retrieve address details to send out the questionnaires (by post, or email where there was no current postal address available) along with a graduate participant information sheet.

Questionnaires were given a 2 week time frame for return, and those who did not complete and return their questionnaires were deemed non responders.

Once questionnaires were returned, they were collected from the Clinical Sciences Department and analysed using the SPSS software package, Version 19.0 (SPSS, Inc., Chicago IL).

Questionnaires were piloted prior to distribution using an opportunity sample of both community and acute working dietitians in local dietetic departments. Biasing was reduced by ensuring a variety of bands (also know as staff grades) of dietitians completed the questionnaires, which were thought to be similar in characteristics, and therefore comparable, to the study population.

Dietetic department managers' address details were also provided by Clinical Sciences Department administrative staff. Managers were then contacted by the researcher in order to request their participation for interview. An invitation letter and participant information sheet and consent form (See Appendix 8); along with stamped addressed envelopes to return the consent forms were provided. Again, a two-week time frame for return of consent form was specified. Managers who returned the consent form agreeing to be interviewed were then contacted and a convenient date, time, and location were agreed. One-to-one interviews were conducted, recorded, and transcribed.

3.4 Data Management and Data Analysis

Quantitative data from the questionnaires was analysed using SPSS software package, Version 19.0. The questionnaires were not tested for normality as

ordinal data by definition is not normally distributed, and this was checked using the standard error of skew or kurtosis.

The statistical test appropriate to analyse the ordinal level data was the non-parametric Mann-Whitney U Test. The Mann-Whitney U Test was deemed appropriate as it determined if a difference existed between the two independent groups (undergraduate and postgraduate dietetic students) of the non-normally distributed data.

The significance (alpha) level used in this study was set at $p<0.05$ as suggested by Thomas, Nelson and Silverman (2005). This significance level ensures there is a 95 percent certainty the significant difference is real and not due to chance. This significance level prevents the occurrence of both Type I and Type II errors. Type I error refers to when a null hypothesis (a hypothesis which the researcher tries to disprove) is rejected, despite the fact it is true. It is also referred to as a "false positive". Type II error describes the error that occurs when a null hypothesis that is false is accepted. The error rejects the alternative hypothesis, even though it does not occur due to chance.

4.0 RESULTS

The results section determines the demographics of the dietetic graduates that completed the questionnaires, and any significant differences in responses between the postgraduates and undergraduates. The results also provide managers' interview findings and graduate qualitative questionnaire findings and are in relation to the research aims and hypothesis.

Table 1. *Undergraduate and postgraduate dietetic student questionnaire data*

	Undergraduate dietetic students	**Postgraduate dietetic students**
Total number of dietetic graduates since programme commencement	69	170
Posted/emailed questionnaires	56	162
No student contact details available	13	8
Questionnaire response rate	28 (50%)	31 (20%)
Overall response rate for postgraduate and undergraduate responses	59 (27%)	

As shown in Table 1. 170 postgraduate students and 69 undergraduate students have graduated from the University of Chester's dietetic programmes since they began. Of these graduates, 162 postgraduate and 56 undergraduates were either posted or emailed questionnaires (there were no contact details for 8 postgraduates and 13 undergraduates). Of the 162 post graduates posted or emailed questionnaires, the response rate was 20% (n=31), while 50% (n=28)

of the undergraduate programme graduates responded. Overall response rate for the postgraduate and undergraduate programmes combined was 27% (n=59).

4.1 Graduate Questionnaire Results

Figure 3 shows dietitians with Band 5, 6 and 7 status responded to the questionnaire, (mainly Band 6 dietitians completed the questionnaire, (n=25), 42%).

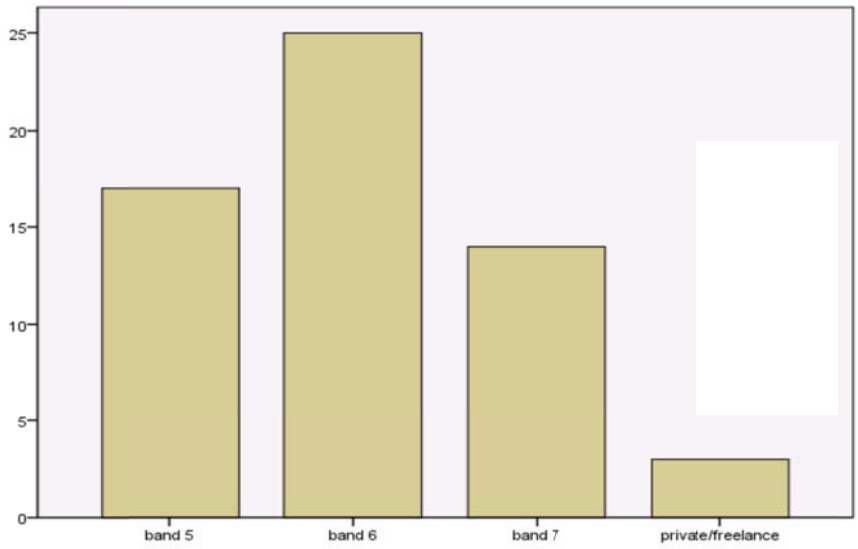

Figure 3. Bar Chart to show dietetic graduates current job position.

There were only 3 responses from freelance/private dietitians (n=3). Bands 5 and 7 were similar in their amount of respondents, with 29% (n=17) and 24% (n=14) respectively. Figure 4 illustrates that the majority (n=28, 48%) of graduates who completed the questionnaire had completed the BSc (Hons) Nutrition and Dietetics programme. Graduates of the Postgraduate Diploma in Nutrition and Dietetics provided 32% (n= 19) of the replies, whilst 20% (n=12) of the questionnaires were completed by Master of Science in Nutrition and Dietetic programme (MSc) graduates.

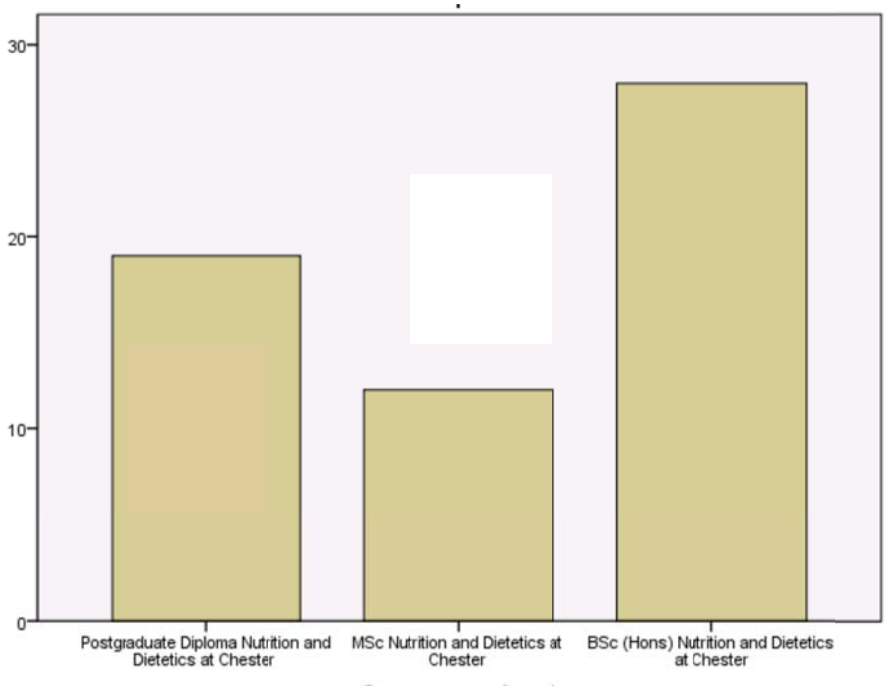

Figure 4. Bar Chart to show the dietetic programme graduates completed.

The greatest number (29%) of responders to the questionnaire graduated in 2010 (n=17). The least responders graduated most recently in 2011 (4%, n=2) (Figure 5).

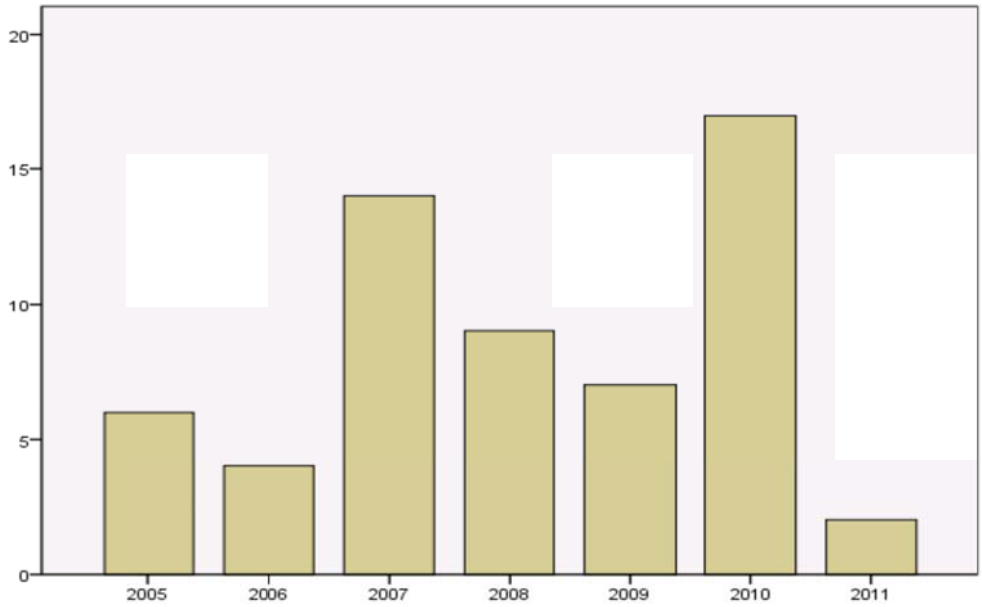

Figure 5. Bar Chart to show response rate of dietetic graduates in relation to their year of graduation.

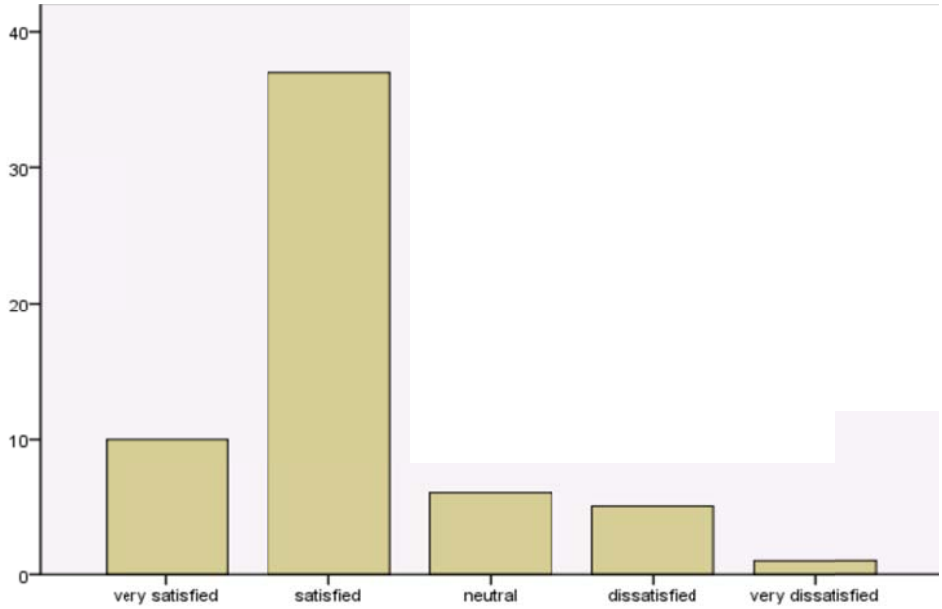

Figure 6. Bar Chart to show satisfaction that the dietetic programme completed ensured graduates were fit for purpose as a graduate level dietiitan.

Figure 6 shows that 64% of the graduates (n=38) who responded to the questionnaire, felt they were satisfied that their dietetic programme ensured they were fit for purpose as a graduate level dietiitan. There were 8% (n=4), and 2% (n=1), that reported they were dissatisfied and very dissatisfied respectively with being fit for purpose on programme completion. Neutral responses were given by 10% graduates (n=6).

Figures 7–10 give the combined postgraduate and undergraduate questionnaire responses to the questions which had statistically significant differences (p<0.05) in their results when split into postgraduate and undergraduate responses. Further analysis of these questions utilising appropriate statistical

test, the Mann Whitney U Test (Table 2.), showed significant differences (p<0.05) in the results from the postgraduates and undergraduates (see Figures 13-16).

Figure 7. Bar Chart to show whether graduates felt they have effective skills in communicating information with different groups using oral, written and presentation means as a consequence of studying the University of Chester dietetic programmes.

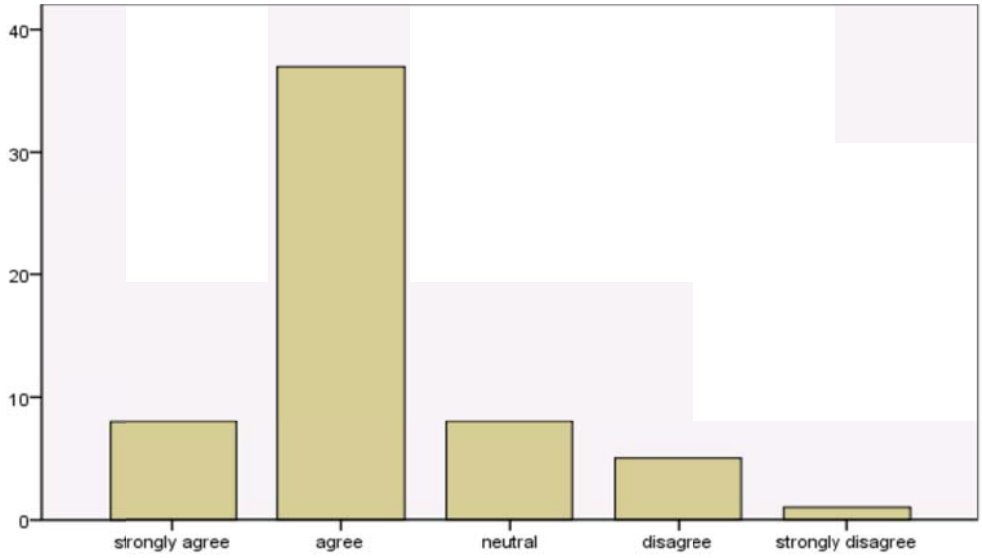

Figure 8. Bar Chart to show graduate responses to their ability to work alongside other health and social care professionals, and interact with members of the public/carers, to maximise health outcomes for effective patient care after completion of the University of Chester dietetic programme.

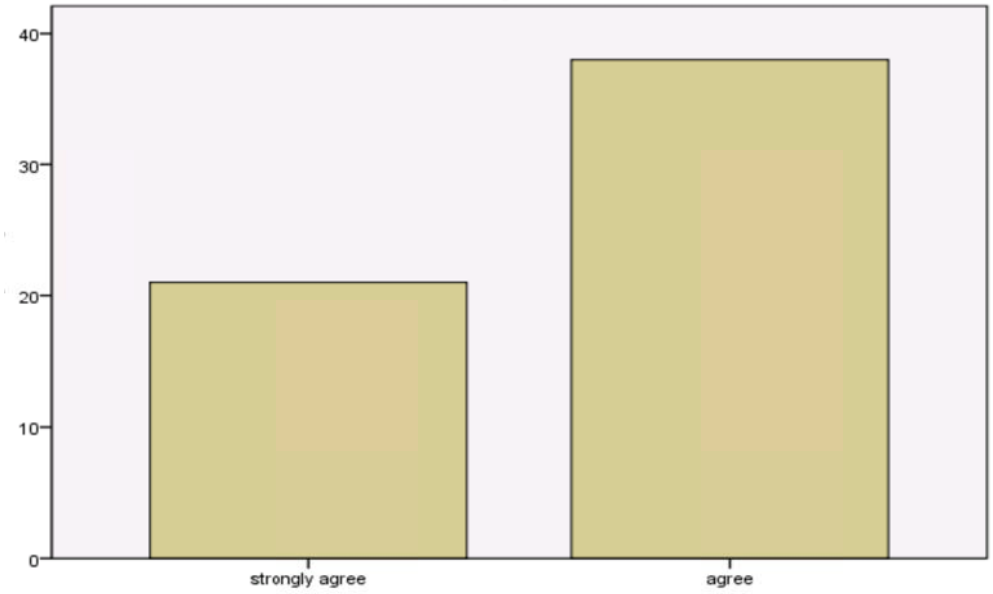

Figure 9. Bar Chart to show graduates responses to their ability to maintain professional standards and exercise duty of care after completing the University of Chester dietetic programme.

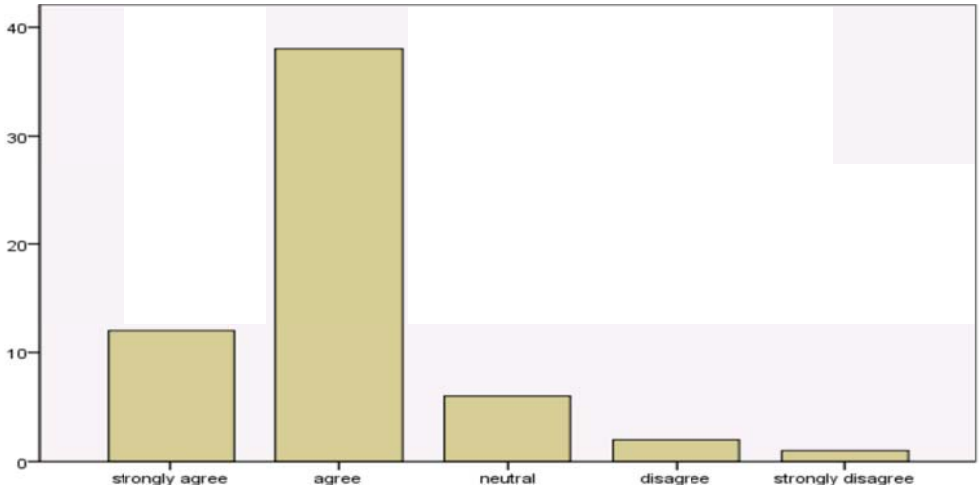

Figure 10. Bar Chart to show graduates responses in their ability to manage workload and prioritise as a consequence of completing the University of Chester dietetic programme.

One of the questions relating to graduates ability to recognise or distinguish the true nature of something or someone during therapeutic approaches as a consequence of studying the University of Chester's dietetic programme, received no responses from 3% of graduates (n=2), which was the question with the greatest number of missing values (Figure 11).

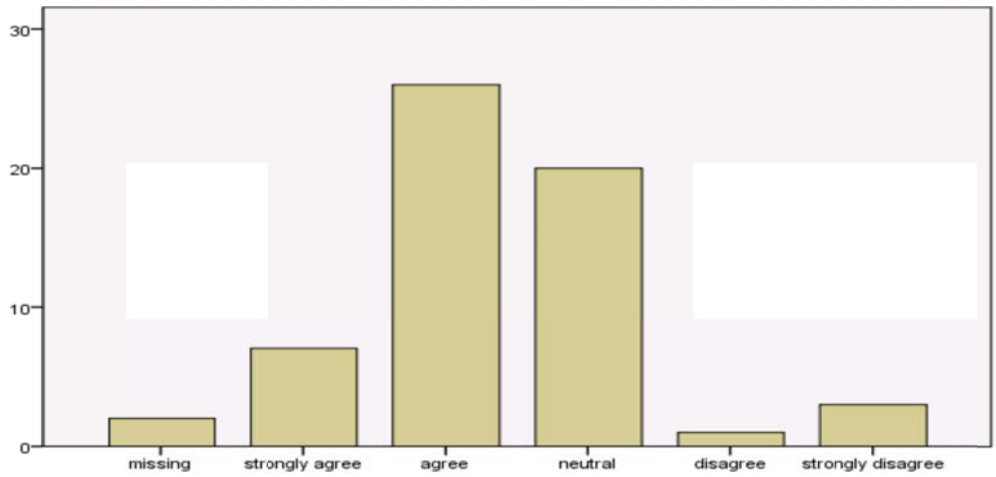

Figure 11. Bar Chart to show responses to graduates ability to recognise or distinguish the true nature of something or someone during therapeutic approaches as a consequence of studying the University of Chester's dietetic programme.

Table 2. *Table to show significant differences between postgraduate and undergraduate questionnaire responses using the Mann-Whitney U Test*

	As a consequence of studying the UC dietetic programme, I feel I have effective skills in communicating information with different groups using oral, written and presentation means	As a consequence of studying the UC dietetic programme, I am able to work alongside other health and social care professionals and interact with members of the public/carers to maximise health outcomes for effective patient care	As a consequence of studying the UC dietetic programme, I am able to manage my own workload and prioritise accordingly	In my first dietetic post I was able to maintain professional standards and exercise duty of care
Asymp.Sig (2-Tailed)	p=0.015	p=0.013	p=0.029	p=0.015

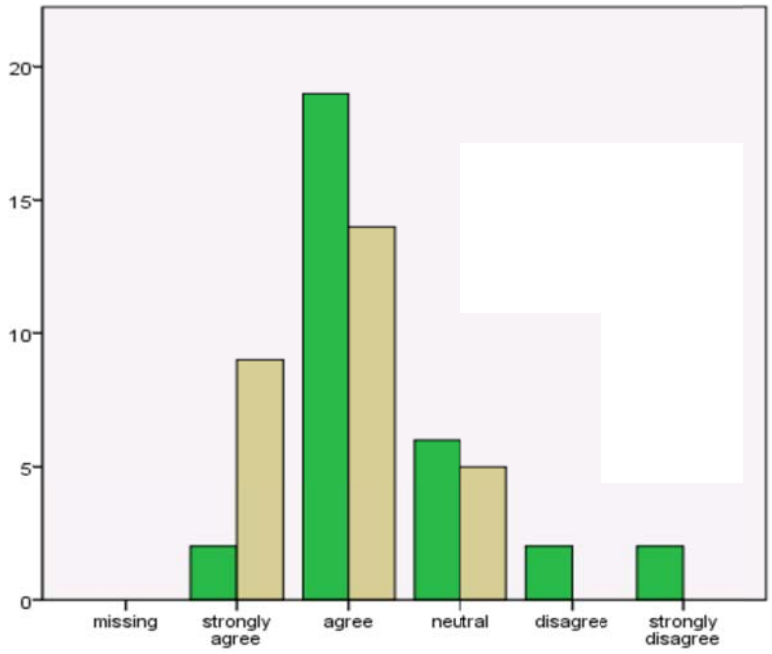

Figure 12. Bar chart to show graduates significantly different responses to Question 4c, “As a consequence of studying the University of Chester’s dietetic programme, I feel I have effective skills in communicating information with different groups using oral, written and presentation means”.

In Figure 12, there is seen to be a significant difference (p=0.015) between the postgraduate and undergraduate question responses. While 61% (n=19) of postgraduates agreed that they had effective skills in communicating information with different groups using oral, written, and presentation means, 50% (n=14) of undergraduates agreed with this statement. No undergraduates disagreed with the statement, with 13% (n=4) of the postgraduates disagreeing.

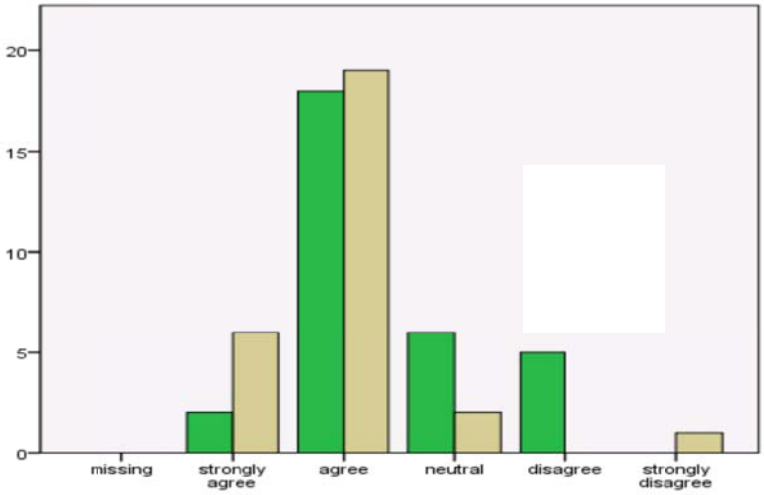

Figure 13. Bar chart to show graduates significantly different responses to Question 4d (i) "As a consequence of studying the University of Chester's dietetic programme, I am able to work alongside other health and social care professionals and interact with members of the public/carers to maximise health outcomes for effective patient care".

There is a significant difference (p=0.013) between the undergraduates and postgraduates responses in relation to their ability to work alongside other health and social care professionals, and interact with members of the public/carers, to maximise health outcomes for effective patient care. Fifty eight percent of postgraduate students (n=18) agreed with the statement, and 16% (n=5) disagreed. 67% of undergraduates agreed with the statement (n=19), and one undergraduate strongly disagreed with the statement (see Figure 13).

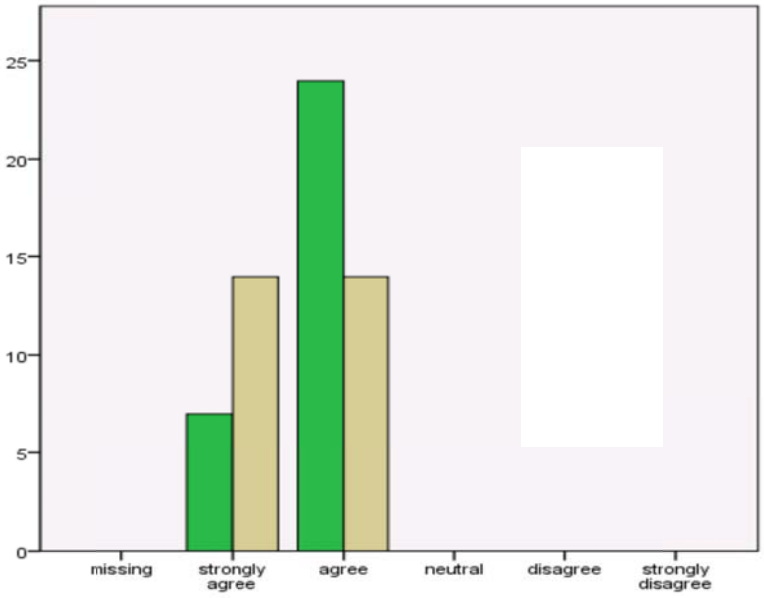

Figure 14. Bar chart to show graduates significantly different responses to Question 4f (i), “In my first dietetic post I was able to maintain professional standards and exercise duty of care”.

Figure 14 shows a significant difference (p=0.029) between the postgraduate and undergraduate replies. Fewer postgraduates strongly agreed (23%, n=7) than undergraduates (50%, n=14) that they were able to maintain professional standards and exercise duty of care.

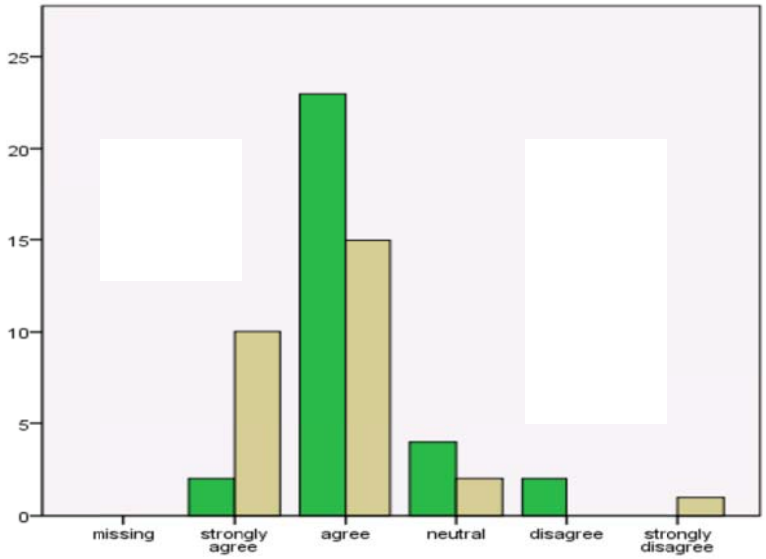

Figure 15. Bar chart to show graduates significantly different responses to Question 4g, “As a consequence of studying the University of Chester’s dietetic programme, I am able to manage my workload and prioritise”.

Figure 15 illustrates a significant difference between the postgraduate and undergraduate responses in relation to their ability to manage their workloads and prioritise accordingly (p=0.015). Only 2% (n=1) of the undergraduates strongly disagreed with the statement, with none of the postgraduates strongly disagreeing. However, 4% (n=2) of the postgraduates disagreed while none of the undergraduates disagreed.

Table 3*. Postgraduate and undergraduate responses to areas of the core curriculum more emphasis could be placed on*

Subject	Postgraduate Frequency	Undergraduate Frequency
Public Health	4	1
Biological basis of disease	11	3
Biochemistry	10	12
Medicine	19	13
Nutrition	5	11
Dietetics	11	14
Food handling skills	7	1
Pharmacology	6	0
Research skills for evidence based practice	0	0
Research skills for research projects and audit	19	18
None of these areas	0	1

Table 4. *Postgraduate and undergraduate responses to areas of the core curriculum less emphasis could be placed on*

Subject	Postgraduate Frequency	Undergraduate Frequency
Public Health	10	11
Biological basis of disease	2	5
Biochemistry	0	2
Medicine	0	0
Nutrition	0	0
Dietetics	0	0
Food handling skills	0	0
Pharmacology	6	0
Research skills for evidence based practice	0	0
Research skills for research projects and audit	0	0
None of these areas	0	1

4.2 Graduate Questionnaire Findings

The two open-ended questions within the graduate questionnaires (See Appendix 1, Questions 5 and 6), related to what graduates felt required strengthening in the dietetic programme in order to prepare graduate dietitians to be fit for purpose. The graduate responses identified 4 key themes:

- Clinical Placements
- Case Studies
- Job seeking and job application support
- Motivational interviewing and behavioural change techniques

4.2.1 Clinical Placements

Placements were the most common theme that emerged from the graduate questionnaire responses. Graduates reported the majority of their learning occurred during their clinical placements

> Graduate #1 “I felt my dietetic practice was learnt on placement and definitely not due to lectures and tutorials”

> Graduate #15 “The three placements filled any gaps and were very valuable”

> Graduate #33 “I believe that the majority of skills learnt are on placement”

One graduate reported feeling that there would be an advantage in taking on board a more practical based curriculum approach to the dietetic course

> Graduate #29 “ A more practical based course (such as how nursing courses are delivered), as the placements are where I learnt most about the work actually involved in dietetics”

4.2.2 Case Studies

An increase in the number of case studies were also identified by graduates as an area for strengthening in the programme

> Graduate #21 “More case studies to relate knowledge with practical issues”

> Graduate #34 “Further case studies on a weekly basis, based on a topic that had been covered that week in diet therapy and nutrition support”

4.2.3 Job Application Support and Interview Skills

Some of the graduates felt they needed increased support with job seeking and job applications

> Graduate #29 “I graduated 4 years ago and felt there was a lot lacking in the course. We weren’t given much support at all in looking for a job. This may have changed now”

> Graduate #31 “Help with completing NHS job application forms”

> Graduate #35 “Practice applying through NHS job application forms rather than standard C.V’’s”

4.2.4 Motivational Interviewing and Behavioural Change Techniques

Graduates reported that motivational interviewing and behavioural change techniques as an area requiring more focus during the programme

> Graduate #11 “Comprehensive and practical behaviour change/motivational interviewing training required strengthening in the programme”

Graduate #4 “Motivational interviewing/counselling skills would have been useful”

4.3 Manager Interview Findings

Eight semi structured interviews were conducted with dietetic department managers who agreed to participate. Having followed the methodology as described previously to analyse the interview data, the following key themes emerged:

- Behavioural change and motivational interviewing techniques
- Employability
- Job application support and interview skills
- Balance between acute and community placement experience

These themes emerged from the interviews, in response to questions which were asked around certain skills and attributes that had been poorly rated by managers in the University of Chester annual employer satisfaction questionnaire. Questions during the interview took into account these recommendations for changes to the dietetic programme. The themes identified also took into consideration the initial research question.

4.3.1 Motivational Interviewing and Behavioural Change Techniques

The theme of behavioural change and motivational interviewing techniques varied in manager's opinions on how capable graduates were. Overall, it appeared there was agreement that these skills were dependent on time and came with experience and practice. One manager reported they felt that the Chester graduates did have a basic level understanding of behavioural change and motivational interviewing techniques

> Manager #4 " I think that when they come out as a graduate they come out with the principles of it, yes I'm sure…I think they come out with the basics to move on"

However, some managers felt this was an area that needed further work within their pre-registration training

> Manager #1 "My experience is that's an area they've really struggled…but then it's so early on in their training that that's not unusual"

In agreement with this, it was reported there had been an improvement over time in graduates' abilities with these behavioural change and motivational

interviewing techniques, but this had been a problem recognised previously with other Chester graduates on the dietetic programme

> Manager #2 “…they weren’t familiar with the concepts and the practice…they have improved on that and they have started some more motivational interviewing training, but I think there was a gap definitely”

In contrast to the above opinions, one manager felt in relation to behavioural change and motivational change techniques, they wouldn’t presume graduates should have these behavioural change and motivational interviewing skills

> Manager #6 “I would never expect a newly qualified dietitan to come out fully armed with all these behavioural change and motivational interviewing techniques”

4.3.2 Employability

No managers claimed they felt there were any outstanding positive or negative differences between graduates from different universities and the University of Chester graduates in terms of their employability. They had all experience of taking University of Chester students, and all of the managers with the exception of one, had employed University of Chester graduates within their departments. It was commented that the University of Chester would benefit

their graduates employability by emphasising the need to apply for their registration as soon as possible.

By understanding NHS values and behaviours and organisational culture, managers felt employability could be improved.

> Manager #4 “One thing the NHS is very keen on now, and certainly our trust is keen on is values and behaviours so understanding what’s meant by values and behaviours and organisational culture and leadership, I think there’s stuff around that”

It was reported by one manager that graduates from the University of Chester employability was enhanced by them having a project management style of working upon their programme completion. This was noticed as being distinctive to University of Chester graduate dietitians. This was also in comparison to other allied health professional graduates within the same therapy service for this particular department, who were claimed to lack this project management style.

> Manager #2 “I think there needs to be an awareness of how important it is to fast track their HPC registration number as soon as they are qualified, as sometimes we are using that to narrow down who we actually call for interview”

> Manager #5 “In the whole time I’ve been here, I can probably think of one or two that we wouldn’t have employed, the rest we definitely would”

One manager felt the graduate they employed from the University of Chester was a strong candidate in terms of employability

> Manager#6 “The person we recruited was the done deal, the complete package, well organised, excellent communication skills and strong knowledge”

4.3.3 Job Application Support and Interview Skills

Managers mentioned job application form completion in relation to employability, so there was an overlap between the employability and job application form completion and interview skills themes. Managers did not feel there were any differences between preparedness for interviews from the University of Chester graduates and other university graduates. It was reported that in order to gain employment on programme completion, graduates need to have a thorough understanding of the trust they are applying to

> Manager #1 “I think for getting into that first post they need to be guided to doing a lot of research around the trust they are applying for, so the

application doesn’t look too generic. We've always been impressed by candidates that have researched the area”

Managers mentioned having increased guidance in completing job application forms and interviews skills via the university, suggesting tutorials or mock interview situations being used as a tool to improve graduate applications and their interview techniques. Again, managers mentioned there was no difference between Chester graduates and other university graduates job application form completion or their interview skills.

Needing to know how to support the claims in their job application forms when asked for more details during interviews was reported by managers. Also, ensuring the person specification had been read thoroughly before graduates apply to a job vacancy, as sometimes managers reported their answers or supporting statements did not match the person specification for the job vacancy.

4.3.4 Balance between Acute and Community Placement Experience

All managers agreed there needs to be a balance for graduates to have a robust basis to commence work as a graduate dietitian. The University of Chester dietetic programmes were identified as encouraging this balance of acute and community clinical placements.

Manager #1 " Chester have put in a system in place whereby rather than applying to particular trust for their placements they apply to an area so that Chester is now able to give their students a mix between community and acute"

Manager #2 "I think it's really important for your first job to have seen both as a student"

Some managers did feel in contrast to these findings, that graduates from the University of Chester didn't have enough acute experience in comparison to their community placements

Manager #3 "Often their experience in acute hospitals has been less than in community, and that's a very different environment than acute hospitals...some people haven't had that consistency of experience"

5.0 DISCUSSION

The research aimed to evaluate the dietetic programmes offered at the University of Chester in relation to enhancing employment and meeting the needs of the workforce.

5.1 Graduate Questionnaire Results

Although it should be acknowledged that the subject findings from the graduate questionnaires were, in the main, discrete to the predominant themes of the literature review (and this may have limited the opportunities for discussion), it was also evident that this method proved to be a useful tool, as it resulted in the establishment of new findings, and subsequently has allowed appropriate future recommendations to be suggested.

As can be seen in the results (See Figure 6) 64% of graduates who responded to the graduate questionnaire reported that they were satisfied that the dietetic programme they had completed ensured that they were fit for purpose as a graduate level dietitian. This could be said to confirm the hypothesis that the dietetic programmes offered at the University of Chester met dietetic graduate needs and prepared them for the dietetic workforce. This is in agreement with previous research results by Barr & Russell (1992) and Rose et al. (2005), who both reported high satisfaction rates from undergraduate programmes. An important factor to note from the current study was, however, that the

postgraduate response rate of 20% was extremely low. It should therefore be acknowledged that it may not be possible to draw similar assumptions from the postgraduate dietetic programme. The reason for the poor response rate to the current study remains unclear as a similar tool was used by Barr and Russell (1992), yet they reported a considerably higher response rate of 67%

In terms of satisfaction ratings, the current study found that graduates and employers recorded similar responses i.e. 63% of managers in the University of Chester's annual employer satisfaction questionnaire results and findings (See Appendix 3) and 64% of graduates agreed they were fit for purpose on completion of the dietetic programme (See Figure 6). These results are in agreement with Karp and Lawrence (1999), who also reported employers tended to rate graduates at the same level or higher than graduates rated themselves. Interestingly, earlier research by Gilmore et al. (1997), also identified that educators were consistently more positive compared to their dietetic students in relation to the level of education achieved. Although the possibility of limited employer response rate and poorly defined terms in questionnaires were suggested as factors contributing to this discrepancy, the reasons remain unclear and warrant further research.

The overall graduate questionnaire response rate of 27% was similar to research by both Gilmore et al. (1997) and Tatum et al. (2008), who reported response rates of 31% and 39% respectively whilst conducting similar studies.

In contrast to this low response rate, Karp and Lawrence (1999), conducted a mail and telephone administered survey and reported a much higher response rate of 87%, which rated the use of new competencies to assess entry-level dietitians, and suggested this meant that their findings accurately represented their study population. The low response rate in the current study may imply that the graduate questionnaire results were not an accurate representation of the University of Chester dietetic programmes graduates, and are therefore less valid. However, as with the earlier research by Tatum et al. (2008), it was established that the response rate was adequate in power for statistical significance.

Barr and Russell (1992) reported that a low response rate to university questionnaires or evaluations has implications for lower satisfaction ratings from students in regard to their dietetic programmes;

> **It has been reported satisfied alumni are more likely to contribute to their alma matter, to recommend it to others, and to consider further education through graduate programmes at their former school (p. 209).**

Bearing this in mind, and the low postgraduate questionnaire response rate in the current study (20%), it would appear that satisfaction rates were low. However, it may also suggest that skewedness was present, suggesting the

possibility that the results may not be deemed to be representative of the dietetic graduates from the postgraduate programme.

An explanation of the low response rate from graduates could possibly have been attributed to the accuracy of the university database, and this may be worth consideration by faculty for future studies.

Interestingly though, as the satisfaction ratings were high for both the dietetic programme postgraduates and undergraduates, with no significant differences (p=0.226) between the two groups. These results do not support Barr and Russell's conclusions.

The graduate questionnaire results demonstrate that there were significant differences (p<0.05) between postgraduate and undergraduate responses for 4 of the questions. These significantly different results were from questions around the skill areas of; communication (p=0.015), interpersonal skills (p=0.013), professional attitude (p=0.015), and initiative (p=0.029).

These results do not agree with the findings of Rose et al. (2005) who identified communication competencies as low for undergraduate preparedness ratings in their study. Suggested reasons for this included the fact that low ratings for preparedness were accompanied by low ratings for depth and or breadth, and the number of learning opportunities provided. These factors were not

investigated in the current study, and may provide a possible explanation for this discrepancy. Phillips et al. (2000) also found, in interviews with new graduate dietitians, that they felt competency standards needed to be modified to emphasise skills in communication inclusive of computer literacy and media skills, as did dietitians interviewed by Puckett (1997), who also highlighted the need for dietetic programmes to have more emphasis on the ability to communicate and interact with diverse groups of people. These issues were not highlighted as significant in the study graduate or employer findings.

In relation to interpersonal skills (See Figure 11) overall responses were consistent between groups, although on further analysis of the data, it became evident that this difference between group responses ($p<0.013$), was influenced by one undergraduate responder who strongly disagreed with the statement, and it is suggested that this may have affected the results. This could possibly be based on educational preparation prior to admission to the dietetic programme, as identified by Gilmore et al. (1997). Interpersonal skills such as the enhanced ability to interact with other healthcare professionals can be achieved according to Allen et al. (2006) and Bjorke & Haavie (2006), via interprofessional education (IPE). In the largest published evaluation of student dietitian reactions to IPE, Whelan et al. (2005) considered the reaction of student dietitians in the first year undergraduate IPE course at Kings College London in order to stimulate debate between dietitians regarding the issues relating to IPE. This study considered undergraduate students views only. The

findings showed that the IPE sessions delivered were rated by student dietitians as significant for learning experience ($p \leq 0.036$) and value for clinical practice ($p \leq 0.05$). The positive influence on interpersonal skills, including communication and listening, was highlighted in the free text comments.

On reflection, the fact that the University of Chester's dietetic programme cohorts are relatively small in number (21 and 17 for the 2012 undergraduate and postgraduate programme respectively), A.Morgan (personal communication, 2012), and their opportunities for IPE are limited to a large cohort of nursing students, (the adult nursing programme took 288 students in 2012), C.Neary (personal communication, December 3, 2012), it seems reasonable to suggest that by utilising IPE within the dietetic programmes, there could be an improvement in the satisfaction ratings relating to interpersonal skills on graduation. The inclusion of a control group of students receiving the same teaching content but uni-professionally would have helped to explain if the positive reactions from the research by Whelan et al (2005) were specifically due to IPE.

Further support to the benefits of IPE were highlighted by Rogers (2005) when reporting on an assessment to better understand the practice and career issues facing dietetic professionals. The exceptionally large sample size (7,886) and high response rate (66%) from this study made it the most comprehensive attempt to date to understand and respond to the dietetic professions

requirements and needs. It also provided strong evidence for the representativeness of survey results. Rogers reported a common theme that there was a need to improve the recognition and respect afforded to dietitians by physicians and other healthcare professionals. This therefore suggests that IPE could foster these relationships by interaction between dietitians and healthcare professionals during their learning experiences.

The poorest response recorded to an item on the questionnaire was Question 4b (iv) (See Appendix 1). Although the reason for this remains unclear, it may be possible to suggest, as in Karp and Lawrence (1999) that the graduates did not understand this question, and that future questionnaires should use more transparent language or question phrasing in order to obtain responses on this item.

Both postgraduates and undergraduates in the current study reported that they felt more emphasis could be placed on the subject areas of biochemistry, medicine, dietetics, and research skills for research projects and audit, in order to strengthen their dietetic programmes (See Table 3) In contrast, both groups felt that less emphasis could be placed on the subject areas of public health and biological basis of disease (See Table 4). This would therefore suggest that it would be beneficial for these areas to be focused on in order to enhance future curriculum offered to the University of Chester dietetic programme students.

Only postgraduate students responded they felt less emphasis was required for the subject area of pharmacology (See Table 4). This could perhaps indicate that postgraduate students on the dietetic programme at the University of Chester may have already had experience of this area, either in their previous degrees and/or employment positions.

In a similar study by Tatum et al. (2008) that focused on dietitians perceived advanced clinical nutrition educational needs, it was reported that significantly more dietitians with postgraduate degrees perceived the need for courses within the following areas: Applied Clinical Research and Outcomes Research. These findings are in keeping with both the postgraduate and undergraduate responses from the current study that asked the graduates which areas they felt needed more emphasis on within the dietetic programme (See Table 3). This suggests another area which the University of Chester may want to consider, in order to enhance the efficacy of the current curriculum on offer.

5.1.1 Graduate Questionnaire Findings

The main findings from all graduates in the open-ended questions (See Appendix 1, Questions 5 and 6) included the emergence of the following themes: clinical placements, case studies, job seeking and job application support, motivational interviewing and behavioural change techniques.

5.1.2 Clinical Placements

All responders emphasised the value of clinical placements on their programmes. This finding was in agreement with Leners et al. (as cited in McCall, Palerma, and Wray, 2009), who concluded that positive ratings in terms of satisfaction to students dietetic programmes, tended to be consistent with positive ratings of placement experiences.

5.1.3 Case Studies

The need for an increase in case-study sessions on their dietetic programmes was also highlighted in the current study. This is in keeping with earlier research by Gibson and Ryan (1996) who reported that revisions to dietetic curricula could include more emphasis on case and problem-based learning in order to improve dietetic programme content. In agreement with these findings, Vernon and Blake, as cited in Pender and Looy (2004) claim that problem centred approaches, together with development of key skills was the best preparation of students prior to clinical exposure.

5.1.4 Job Application Support and Interview Skills

This theme was also a factor that was identified as important for strengthening dietetic programmes anecdotal comments included;

Graduate #29 “I graduated 4 years ago and felt there was a lot lacking in the course. We weren’t given much support at all in looking for a job. This may have changed now”

Graduate #31 “Help with completing NHS job application forms”

It would appear reasonable to suggest, from these comments that greater support in these subject areas could be focused on for future curriculum development within the dietetic programmes.

5.1.5 Motivation Interviewing and Behavioural Change Techniques

A final theme that emerged as an important factor in this study, was the need for the development of motivational interviewing skills and behaviour change techniques within the taught programme, rather than during clinical placements or in first post positions.

5.2 Manager Interview Findings

Although it should be acknowledged that the subject findings from the manager interviews were, in the main, discrete to the predominant themes of the literature

review (and this may have limited the opportunities for discussion), it was also evident that this method proved to be a useful tool as it resulted in the establishment of new findings and subsequently has allowed appropriate future recommendations to be suggested.

The findings of the manager one-to-one interviews confirmed the hypothesis that the University of Chester's dietetic programme meets the needs of NHS employers.

Behavioural change and motivational interviewing techniques, employability, job application support and interview skills, and balance between acute and community placement experience, were common themes that emerged amongst the manager one-to-one interviews. Interestingly, there were two common themes that occurred in both the findings between the dietetic department managers' interviews, and the two open-ended questions in the graduate questionnaires. These were, motivational interviewing and behavioural change techniques, and job application support and interview skills.

While managers reported overall they felt that graduates did have the necessary competency in motivational interviewing and behavioural change techniques, they did identify this as a skill they would not expect at graduate level a dietetic graduate to be proficient in. Rather it was reported this is a skill that progresses with time and experience. In agreement with these findings, Gilmore et al.

(1997) found that 47% of the dietetic competencies reported as taught in the dietetic educational program were not reported to have been used by entry-level dietetics practitioners in their first job role. This suggests that there may be a need to acknowledge the progressive nature of developing motivational interview skills through work-life experience in the dietetic curriculum.

In relation to job application support and interview skills, although the paucity of previous or current research into this specific area limits meaningful comparisons, it was interesting to note the importance that both sets of respondents placed on this skill area. Although the managers in this study reported no differences between University of Chester graduates and those of other institutions in relation to such skills, (See Results Section 4.3.3), it appeared that the undergraduates (See Results Section 4.2.3) felt that this was a part of the curriculum that needed to be developed.

5.2.1 Limitations

There were limitations within the research. For instance, the managers who agreed to partake in the interviews may not have included any managers who in the annual employer satisfaction questionnaire, gave negative or low ratings for the University of Chester dietetic graduate skills or preparedness to practice (this information was not received, only the overall findings from the annual employer satisfaction questionnaire were available to the researcher).

Despite the fact there are advantages of interviews, including depth and insight of information and validity as there is direct contact with the interviewee, there are also limitations to interviews. The researcher's lack of skill and inexperience was a noted limitation – it became clear as more interviews were performed that practice provided an advantage in the ability to elicit information and prompt responses. Further limitations of interviews included them being time consuming, a lack of reliability and interviewer effect, (Denscombe 2010). Another limitation of the interviews was the time consuming process of transcribing the interviews. Gibbs (2007) recognised that transcriptions of interviews are a time-consuming process, claiming it can take four to six times as long as the data collection itself. Gibbs (2007) also identified the time taken to be dependent upon the speed and skill of the typist, and the level of detail required.

One semi- structured interview was conducted via telephone with a dietetic department manager. This telephone approach has been used successfully in other research such as Garbett & M^{c}Cormack (2001), who conducted a small-scale qualitative telephone interview study to explore practitioners' views of practice development. Telephone interviews, however, are acknowledged to differ in the quality of their data compared to face to face interviews, as the interviewer can have more difficulty controlling the interview over the telephone. Non verbal cues can also be missed by a telephone interview, and can make the process seem more detached. Non verbal signs according to Goffman

(1959) can help to situate and verify the things we say. The reported reduced quality of telephone interviews can be attributed to interviewer inexperience and also partly due to the diminished role of the interviewer in telephone interviews, as observed by Robson (2002).

The research undertaken was only representative in its results of one university's dietetic programmes (the University of Chester), and findings are therefore are not applicable to graduates from other dietetic courses in different regions. This was an observation also reported by Barr & Russell (1992) in their research. It must also be acknowledged that this research was deliberately limited to focus upon a UK dietetic programme, as this was what the researcher had experience of, and therefore findings are not applicable to or representative of international dietetic programmes.

The greatest limitation is the validity of the findings in light of the huge non-response rate from the postgraduate dietetic programme questionnaires. This suggests an unknown factor in the majority, and despite satisfaction with the programme from the graduates who did respond, claiming satisfaction based on the 20% of postgraduates who did reply is highly questionable.

5.2.2 Recommendations

Future research could aim to investigate further the differences between the postgraduate and undergraduates identified in this study. Research could also

be conducted to compare dietetic graduates and dietetic employers' perceptions of readiness to practice on dietetic programme completion for more than one dietetic programme in the UK. This research could utilise the same graduate questionnaire used in this research in order to compare results and standardise findings nationwide.

In response to the feedback provided from graduates who identified some subject areas as needing less emphasis in the dietetic curriculum, it seems reasonable to suggest that more emphasis could be placed on the current system of Accreditation of Prior Experiential Learning (APEL) and Accreditation of Prior Certificated Learning (APCL) at the University of Chester. This would more effectively identify and confirm knowledge and skills obtained through both formal and informal sources. One of the obvious benefits of this would be to avoid unnecessary repetition for students who have prior expertise in certain disciplines. The benefits of this were highlighted by Lordly (2007), who concluded that accreditation for prior learning enhanced confidence, potentially shortened placement length, and improved employment prospects.

Although it is to be acknowledged that other factors may have contributed (e.g. time constraints) the low response rate in the current study suggests that the results cannot be representative of the dietetic postgraduate group. This therefore warrants further research into appropriate research tools that may be more effective in regard to gathering data from similar groups.

Further work could also aim to delve in detail into the confounding variables which were not addressed in this research to limit their effect. These are variables such as; gender, age, and previous employment, which could all have an impact on questionnaire responses, and give a deeper insight into the differences in satisfaction and responses from graduates.

The interviews and graduate questionnaires established new themes in relation to graduate dietitians readiness to practice. These were themes around skills such as motivational interviewing and behavioural change technique, and job application form completion and interview skills. Future studies could therefore focus on in-depth research into these skill areas for graduate dieitians, and their universities dietetic programme provision of support and development of these skills.

This study only looked at a UK based dietetic programme and UK based dietetic practitioners. It needs to be considered that dietitians may, after graduation, relocate to other countries in order to practice as a dietitian. The dietetic programme in future could therefore aim to give insights and information into other countries dietetic practices and requirements as well teach key transferable skills, in order to allow their dietetic graduates to be potentially universal in terms of their employability.

By using the research findings to steer future curriculum development and change certain areas of the dietetic programme content at the University of Chester, the skill areas poorly rated, or deemed to require strengthening by graduate dietitians and employers, could be improved. This would aid programme development and subsequently increase future graduate satisfaction ratings.

6.0 CONCLUSIONS

H_1) The dietetic programmes offered by the University of Chester, meet the needs of NHS dietetic department managers.

H_2) The dietetic programmes offered by the University of Chester, meet dietetic graduate needs and prepare them for the dietetic workforce.

In relation to H_1):
The results of this study suggest that NHS dietetic department managers are satisfied that the University of Chester dietetic programmes meet their needs.

In relation to H_2):
The results of this study suggest that the dietetic programmes offered by the University of Chester, meet the needs of graduates and prepare them for the dietetic workforce.

A further conclusion that can be drawn from this research emerged as a result of the study design which identified a lack of current or previous research involving dietetic programme postgraduates.

Both postgraduates and undergraduates are satisfied with the dietetic programme content provided by the University of Chester. There were four skill areas that postgraduates and undergraduates had significant differences in

responses for. These were; communication, interpersonal skills, professional attitude, and initiative. These areas would benefit from further research.

Both graduates and managers reported similar perceptions in the areas of motivational interviewing and behavioural change techniques, and job application form completion and interview techniques, as areas requiring further support and development.

6.1 REFLECTION

Conducting the research has allowed the researcher to reflect on their own practice in relation to the areas and skills that were recognised by other dietitans as being rated less positively or unsatisfactory at the point of graduation. The researcher could identify with feeling satisfied, in retrospect, that they were fit for purpose at the point of graduation.

As the research progressed, it became apparent how essential dietetic university curriculum content, its structure, and the practice placement circuit is on employability, readiness for practice, and employers and graduates perceptions of their capability at the point of graduation. This made the research focus feel useful and appealed to the researcher, particularly as the researcher is employed as both a community dietitian and a Placement Development Manager, involved in increasing high-quality placement capacity for both nursing and allied health professionals in the North West region.

As a result of completing the research, the relevance of clinical placement experiences, and their importance to students learning and their competency development, was apparent. It was also clear how positive programme satisfaction rates were linked to positive placement experiences. This has therefore made the researcher appreciate the importance of their role as a Placement Development Manager. The researcher has become more

mindful when sourcing placements for healthcare students that the quality and depth of opportunities the placements provide is of paramount importance on student experience, and ultimately, graduates perception of their preparedness for practice.

If the study were to be repeated, attempts would be made not to cover so much in terms of the qualitative and quantitative data collection, but rather focus more in-depth on one of the research methods. Employing mixed-method research methods, made the process of data collection (and ultimately interpretation) feel arduous, although admittedly this could be due to inexperience of the researcher.

As there have been unavoidable tutor changes through the completion of the dissertation, future research would aim to strive for continuity with academic support.

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8.0 APPENDICIES

Appendix 1
Graduate Questionnaire

University of Chester's Dietetic Graduates and Employability.

This questionnaire is designed in order to evaluate the views of graduate dietitians from the University of Chester in relation to their course provision and content. You have been selected to be included in the questionnaire as you are a newly or recently qualified dietitian from University of Chester's dietetic programme.

PLEASE COMPLETE THE QUESTIONNAIRE FROM A NEWLY QUALIFIED DIETITIAN'S PERSPECTIVE.

1) What position are you employed at currently:

Band 5 Dietitian ☐
Other ☐
If other, please identify and state the band
_____

2a) Course completed:

Postgraduate Diploma Nutrition and Dietetics at Chester ☐
MSc Nutrition and Dietetics at Chester ☐
BSc (Hons) Nutrition and Dietetics at Chester ☐

2b) In which year did you gain Health Professions Council Registration:

2006	2007	2008	2009	2010
☐	☐	☐	☐	☐

3) How satisfied are you that the course you completed at University of Chester has ensured you are fit for purpose as a graduate level dietitian? (Please select one option)

Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
☐	☐	☐	☐	☐

4a) Knowledge Base and Understanding

(i)The University of Chester (UC) dietetic programme has provided me with a theoretical foundation for evidence based dietary intervention to enable me to work at Band 5 Level

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(ii)As a consequence of studying the UC dietetic programme, I understand the relationship between diet and health/diet and ill health

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(iii)As a consequence of studying the UC dietetic programme, I understand the relationship between dietary intervention and clinical outcome or quality of life

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

4b) Analytical Skills

(i)As a consequence of studying the UC dietetic programme, I feel able to make clinical or therapeutic judgements

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(ii)As a consequence of studying the UC dietetic programme, I am able to reflect throughout as well as on my clinical practice

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(iii)As a consequence of studying the UC dietetic programme, I am able to evaluate the basis upon which dietetic intervention rests for the purposes of service provision/ advice giving, nutritional treatment plans

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(iv)As a consequence of studying the UC dietetic programme, I have the ability to recognise or distinguish the true nature of something or someone during therapeutic approaches

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(v)As a consequence of studying the UC dietetic programme, I am able to participate in audit and use other quality assurance procedures such as one to one's with clinical leads, complete staff evaluation questionnaires, etc

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

4c) Communication Skills

As a consequence of studying the UC dietetic programme, I feel I have effective skills in communicating information with different groups using oral, written and presentation means

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

4d) Interpersonal Skills

(i)As a consequence of studying the UC dietetic programme, I am able to work alongside other health and social care professionals and interact with members of the public/carers to maximise health outcomes for effective patient care

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(ii)As a consequence of studying the UC dietetic programme, I am able to maintain culturally sensitive and respectful relationships with dietetic service users/carers

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

4e) Therapeutic Skills

(i)As a consequence of studying the UC dietetic programme, I feel confident in making competent judgements for dietetic service users based on case information

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(ii)As a consequence of studying the UC dietetic programme, I can make reasoned and evidence based approaches in relevant areas of patient care

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(iii)As a consequence of studying the UC dietetic programme, I am able to handle patient data and information effectively using relevant information technology programmes

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(iv)As a consequence of studying the UC dietetic programme, In my first Band 5 dietetic post, I felt competent as a dietetic practitioner in relation to my knowledge and skills?

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

If disagree, please state why:

4f) Professional Attitude

(i)In my first dietetic post I was able to maintain professional standards and exercise duty of care

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(ii)As a consequence of studying the UC dietetic programme, I can reflect on practice and identify areas for continuing professional development

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

4g) Initiative

As a consequence of studying the UC dietetic programme, I am able to manage my own workload and prioritise accordingly

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

4h) Management of Change

(i)As a consequence of studying the UC dietetic programme, I am able to work pragmatically, can adapt to situations and change accordingly

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(ii)As a consequence of studying the UC dietetic programme, I respond positively and pro actively to guidance and feedback

Always	Sometimes	Rarely	Never
☐	☐	☐	☐

4i) Team Strengths

(i)As a consequence of studying the UC dietetic programme, I am able to work alongside colleagues and other healthcare professionals to deliver effective patient care

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

(ii)I feel I have developed through my course programme strong leadership skills (the ability to guide and inspire others)

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

4j) Employability Skills

(i)During my course I was given support and help to produce an appropriate c.v

Yes	No
☐	☐

(ii)During my course I had practice and advice in completing job application forms

Yes	No
☐	☐

(iii)During my course I have been able to have practice interview experiences

Yes	No
☐	☐

(iv)If the answer is 'Yes', do you feel this experience helped in your actual interview experience?

Yes	No
☐	☐

(v) I engaged with the Careers service at University of Chester

Yes	No
☐	☐

5) What (if anything) do you feel requires strengthening in the programme in terms of preparing graduate dietitians to be fit for purpose? Please comment below and why?

6) Is there anything else you would like to see in the dietetic programme which would have been beneficial in your first role as a graduate dietitian? Please comment below and why?

7a) In relation to the following areas of the core curriculum, please indicate whether you feel more emphasis could be placed in the programme on:

- Public Health ☐
- Biological Basis of disease ☐
- Biochemistry ☐
- Medicine ☐
- Nutrition ☐
- Dietetics ☐
- Research skills for evidence based practice ☐
- Food handling skills ☐
- Pharmacology ☐
- Research skills for research projects and audit ☐
- None of these areas ☐

7b) In relation to the following areas of the core curriculum, please indicate whether you feel less emphasis could be placed in the programme on:

- Public Health ☐
- Biological Basis of disease ☐
- Biochemistry ☐
- Medicine ☐
- Nutrition ☐
- Dietetics ☐
- Research skills for evidence based practice ☐
- Food handling skills ☐
- Pharmacology ☐
- Research skills for research projects and audit ☐
- None of these areas ☐

Thank you for you time with this questionnaire. Your participation is appreciated.
Please return this questionnaire in the pre-paid envelope provided.

Appendix 1a.

Graduate Questionnaire Rationale

Rationale of Questionnaire

Question	Rationale	Justification	Analysis
1&2	Information to find out characteristics of the questionnaire respondents	Provides demographics of respondents and if they are undergraduate or postgraduate students, this will effect the analysis of the data and allow for comparisons between the programmes to be made. It also shows if the respondents are representative of the population being studied (UOC graduate dietitians). Will also provide data on what job role they currently hold (i.e. if they have progressed to a higher banding since graduation)	Descriptive
3	To question if graduates are satisfied the University of Chester dietetic programme ensures they are ready for practice as a newly qualified dietitian	See the differences (if any) between undergraduate and postgraduate programme student satisfaction ratings. These findings can also be compared against employer's opinions of graduates, to see if there are differences.	Comparative: undergraduate versus post graduate
The following questions (4a-j) have been formulated inline with HPC standards of proficiency, conduct performance and ethics (2007), as well as the British Dietetic Association Curriculum Framework for the Pre-Registration Education and Training of Dietitians (2008). Question 4a (i) gives a detailed justification for the question being asked. Whilst this is not repeated for all questions, these will be provided in the discussion section of the dissertation.			
4a (i)	To see if graduates at point of registration feel their programme has given them a theoretical foundation for evidence based dietary intervention (EBD)	**KNOWLEDGE BASE & UNDERSTANDING:** is a core component for programme completion and having a theoretical foundation for EBD is a key requirement of ksf and ties in with the hpc Standards of Proficiency (standards 2b.2, 3a.1).	Comparative: undergraduate versus post graduate
4a (ii)	To see if graduates at point of registration feel they understand relationships between diet and health/diet and ill health	**KNOWLEDGE BASE & UNDERSTANDING:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4a (iii)	To see if graduates at the point of registration feel they can understand the relationship between dietary intervention and clinical outcome or quality of life	**KNOWLEDGE BASE & UNDERSTANDING**: is a core component for programme completion	Comparative: undergraduate versus post graduate
4b (i)	To see if graduates at the point of registration feel capable to make clinical or therapeutic judgements	**ANALYTICAL SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4b (ii)	To see if graduates at the point of registration feel they can reflect throughout as well as on their clinical practice	**ANALYTICAL SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4b (iii)	To see if graduates at the point of registration feel able to evaluate the basis upon which dietetic intervention rests for the purposes of service provision/advice giving and formulation of nutritional treatment plans	**ANALYTICAL SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4b (iv)	To see if graduates at the point of registration feel able to recognise or distinguish the true nature of something or someone during therapeutic approaches	**ANALYTICAL SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate

4b (v)	To see if graduates at the point of registration feel able to participate in audit, and use quality assurance procedures	**ANALYTICAL SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4c	To see if graduates at the point of registration feel they have effective communication skills with different groups using varied presentation methods	**COMMUNICATION SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4d (i)	To see if graduates at the point of registration feel able to work as a multidisciplinary team member, and able to interact with members of the public/carers in order to achieve the best health outcomes for patients	**INTERPERSONAL SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4d (ii)	To see if graduates at the point of registration feel able to maintain culturally sensitive and respectful relationships with both service users and carers	**INTERPERSONAL SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4e (i)	To see if graduates at the point of registration feel confidence in making evidence based judgements for dietetic service users	**THERAPUTIC SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4e (ii)	To see if graduates at the point of registration feel confidence in making evidence based judgements for dietetic service users	**THERAPUTIC SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4e (iii)	To see if graduates at the point of registration feel they were able to handle patient data and information effectively using appropriate information technology means	**THERAPUTIC SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4e (iv)	To see if graduates at the point of registration feel they were competent to practice in terms of their skills and their knowledge	**THERAPUTIC SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4f (i)	To see if graduates at the point of registration feel able to maintain professional standards and feel able to exercise their duty of care	**PROFESSIONAL ATTITUDE:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4f (ii)	To see if graduates at the point of registration feel able to reflect on practice and identify areas for their own continuing professional development	**PROFESSIONAL ATTITUDE:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4g	To see if graduates at the point of registration feel able to managing their own workload and can prioritise their work effectively	**INITIATIVE:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4h (i)	Assess whether graduates feel they can work pragmatically and adapt to different situations and change accordingly	**MANAGEMENT OF CHANGE:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4h (ii)	Assess whether graduates from the UC feel they respond to guidance and feedback positively and pro-actively	**MANAGEMENT OF CHANGE:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4i (i)	To see if graduates at the point of registration feel able to work alongside dietetic/department	**TEAM STRENGTHS:** is a core component for programme completion	Comparative: undergraduate versus

	colleagues and work in a multidisciplinary team in order to provide effective patient care		post graduate
4i (ii)	To see if graduates feel their course programme developed strong leadership skills	**TEAM STRENGTHS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4j (i)	Find out if the graduate received support and help in completing their c.v for employment applications	**EMPLOYABILITY SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4j (ii)	Find out if the graduate dietitian received any advice and practice experience in job application completing	**EMPLOYABILITY SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4j (iii)	Find out if the graduate dietitian had practice interview experience during their course	**EMPLOYABILITY SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
4j (iv)	Find out If the graduate dietitian used UC careers service	**EMPLOYABILITY SKILLS:** is a core component for programme completion	Comparative: undergraduate versus post graduate
5	Gives a chance to say what requires reinforcing in the course curriculum content that would be useful for graduate dietitians		Thematic
6	A chance to write any ideas or suggestions to the programme content that graduates feel would have been beneficial		Thematic
7a	Requesting participants opinions on what (if any) specific areas in the curriculum, in retrospect they would have liked to have had more emphasis on		Thematic
7b	Requesting participants opinions on what (if any) specific areas in the curriculum, in retrospect they would have liked to have had less emphasis on		Thematic

Appendix 2
University of Chester Annual Employer Satisfaction Questionnaire

University of Chester
Department of Clinical Sciences

Employer Satisfaction Questionnaire

UC are commissioned by NHS North West to produce graduates fit for the purpose of employment as Band 5 Dietitians on completion of their programme of studies at UC. This questionnaire is used to gauge NHS employer views of UC graduates from pre-registration courses attended at UC. We would appreciate your response on a general level.

Name of Employer:

Position in organisation (please state):

Type of graduates employed:

Post-qualifying:
Dietitians ☐
Other (please state):

Question 1:
How satisfied are you that the programmes are ensuring the fitness for purpose of graduates on completion of their study? *(please select one option)*

Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
☐	☐	☐	☐	☐

Question 2:
Please answer the following:

a)

Knowledge Base	*Graduates from the University of Chester have a very good breadth and depth of knowledge, are resourceful and are able to apply theory in practice effectively.*

In relation to knowledge base, do you feel the graduates meet this description?

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
☐	☐	☐	☐	☐

b)

Analytical Skills	*Graduates from the University of Chester have good analytical abilities and demonstrate good questioning and problem solving skills.*

In relation to analytical skills, do you feel the graduates meet this description?

Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree ☐

c)

Communication Skills	*Graduates from the University of Chester are confident, able to articulate well in oral, written and presentation media, with a range of professionals and clients.*

In relation to communication skills, do you feel the graduates meet this description?

Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree ☐

d)

Interpersonal Skills	*Graduates from the University of Chester engage easily with others, are empathetic considerate of others and attentive.*

In relation to interpersonal skills, do you feel the graduates meet this description?

Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree ☐

e)

Therapeutic Skills	*Graduates from the University of Chester are competent and able to reflect in and on practice, making effective use of evidence base.*

In relation to therapeutic skills, do you feel the graduates meet this description?

Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree ☐

f)

Professional Attitude	*Graduates from the University of Chester have a sound work ethic, are reflective practitioners with good self awareness and are respectful of others.*

In relation to professional attitude, do you feel the graduates meet this description?

Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree ☐

g)

Initiative	*Graduates from the University of Chester take responsibility for personal workload are able to work autonomously, to deliver responsibilities to the team, and can be relied upon to deliver on what's expected of them.*

In relation to initiative, do you feel the graduates meet this description?

Strongly Agree	Agree	Neutral		Disagree	Strongly Disagree
☐	☐	☐	☐	☐	

h)

Management of Change	*Graduates from the University of Chester are pragmatic, adapt well and respond positively to guidance and feedback.*

In relation to management of change, do you feel the graduates meet this description?

Strongly Agree	Agree	Neutral		Disagree	Strongly Disagree
☐	☐	☐	☐	☐	

i)

Team Strengths	*A collaborator; can be relied upon for support and consideration of others; good leadership potential.*

In relation to team strengths, do you feel the graduates meet this description?

Strongly Agree	Agree	Neutral		Disagree	Strongly Disagree
☐	☐	☐	☐	☐	

Question 3:
What, if anything, do you feel requires strengthening in the programmes in terms of preparing graduates to be fit for purpose?

Question 4:
Please comment further on any aspect of preparing graduates to be fit for purpose.

Question 5:
Is there anything else you would like to see in our provision?

Appendix 3

University of Chester Annual Employer Satisfaction Questionnaire Results and Findings

Data from all questionnaires inputted (n=38)

Frequency Table

Type of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dietitian	37	97.4	97.4	97.4
	Dietitian and Public Health Nutritionist	1	2.6	2.6	100.0
	Total	38	100.0	100.0	

Fit for purpose of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very satisfied	14	36.8	36.8	36.8
	Satisfied	24	63.2	63.2	100.0
	Total	38	100.0	100.0	

Knowledge base of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	7	18.4	18.4	18.4
	Agree	28	73.7	73.7	92.1
	Neutral	2	5.3	5.3	97.4
	Disagree	1	2.6	2.6	100.0
	Total	38	100.0	100.0	

Analytical skills of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	7	18.4	18.4	18.4
	Agree	26	68.4	68.4	86.8
	Neutral	5	13.2	13.2	100.0
	Total	38	100.0	100.0	

Communication skills of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	8	21.1	21.1	21.1
	Agree	28	73.7	73.7	94.7
	Neutral	2	5.3	5.3	100.0
	Total	38	100.0	100.0	

Interpersonal skills of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	10	26.3	26.3	26.3
	Agree	24	63.2	63.2	89.5
	Neutral	4	10.5	10.5	100.0
	Total	38	100.0	100.0	

Therapeutic skills of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	8	21.1	21.1	21.1
	Agree	29	76.3	76.3	97.4
	Neutral	1	2.6	2.6	100.0
	Total	38	100.0	100.0	

Professional attitude of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	8	21.1	21.1	21.1
	Agree	28	73.7	73.7	94.7
	Neutral	1	2.6	2.6	97.4
	Disagree	1	2.6	2.6	100.0
	Total	38	100.0	100.0	

Initiative of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	9	23.7	23.7	23.7
	Agree	24	63.2	63.2	86.8
	Neutral	5	13.2	13.2	100.0
	Total	38	100.0	100.0	

Graduates ability to manage change

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-9	1	2.6	2.6	2.6
	Strongly agree	7	18.4	18.4	21.1
	Agree	24	63.2	63.2	84.2
	Neutral	5	13.2	13.2	97.4
	Disagree	1	2.6	2.6	100.0
	Total	38	100.0	100.0	

Team strengths of graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	5	13.2	13.2	13.2
	Agree	20	52.6	52.6	65.8
	Neutral	13	34.2	34.2	100.0
	Total	38	100.0	100.0	

What could strengthen the training programme

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Improved practical and theoretical knowledge of food preparation	2	5.3	6.9	6.9
	Improved behavioural change and motivational change techniques	4	10.5	13.8	20.7
	Use of current practitioners in teaching	1	2.6	3.4	24.1
	Importance of being a' team player'	3	7.9	10.3	34.5
	Awareness of current NHS re quality and actiivity targets and flexible working	2	5.3	6.9	41.4
	Appropriate recruitment of candidates onto courses	2	5.3	6.9	48.3
	Balanced placement including both acute and community work	1	2.6	3.4	51.7
	Importance of self-responsibility re increasing theoretical knowledge base	1	2.6	3.4	55.2
	Understanding that dietetics is a patient-centred profession	1	2.6	3.4	58.6
	Fit for purpose	7	18.4	24.1	82.8
	Improve biochemical and pharmaceutical knowledge	1	2.6	3.4	86.2
	Improved knowledge of community working	3	7.9	10.3	96.6
	Prioritisation of treatment for multiple conditions	1	2.6	3.4	100.0
	Total	29	76.3	100.0	
Missing	-9	9	23.7		
Total		38	100.0		

What could strengthen the training programme

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Improved behavioural change and motivational change techniques	1	2.6	16.7	16.7
	Importance of being a' team player'	1	2.6	16.7	33.3
	Awareness of current NHS re quality and activity targets and flexible working	2	5.3	33.3	66.7
	Understanding of influence of Government of Healthcare provision	1	2.6	16.7	83.3
	Increased guidance in completing application forms and interview skills	1	2.6	16.7	100.0
	Total	6	15.8	100.0	
Missing	-9	32	84.2		
Total		38	100.0		

What could strengthen the training programme

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Improved teaching of multi-professional/disciplinary working	1	2.6	100.0	100.0
Missing	-9	37	97.4		
Total		38	100.0		

Other aspect to prepare graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Improved teaching of multi-professional/disciplinary working	2	5.3	28.6	28.6
	Awareness of current NHS re quality and activity targets and flexible working	1	2.6	14.3	42.9

	Appropriate recruitment of candidates onto courses	1	2.6	14.3	57.1
	Balanced placement including both acute and community work	1	2.6	14.3	71.4
	Understanding that dietetics is a patient-centred profession	1	2.6	14.3	85.7
	instruction on interview techniques	1	2.6	14.3	100.0
	Total	7	18.4	100.0	
Missing	-9	31	81.6		
Total		38	100.0		

Other aspect to prepare graduate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Understanding that dietetics is a patient-centred profession	1	2.6	100.0	100.0
Missing	-9	37	97.4		
Total		38	100.0		

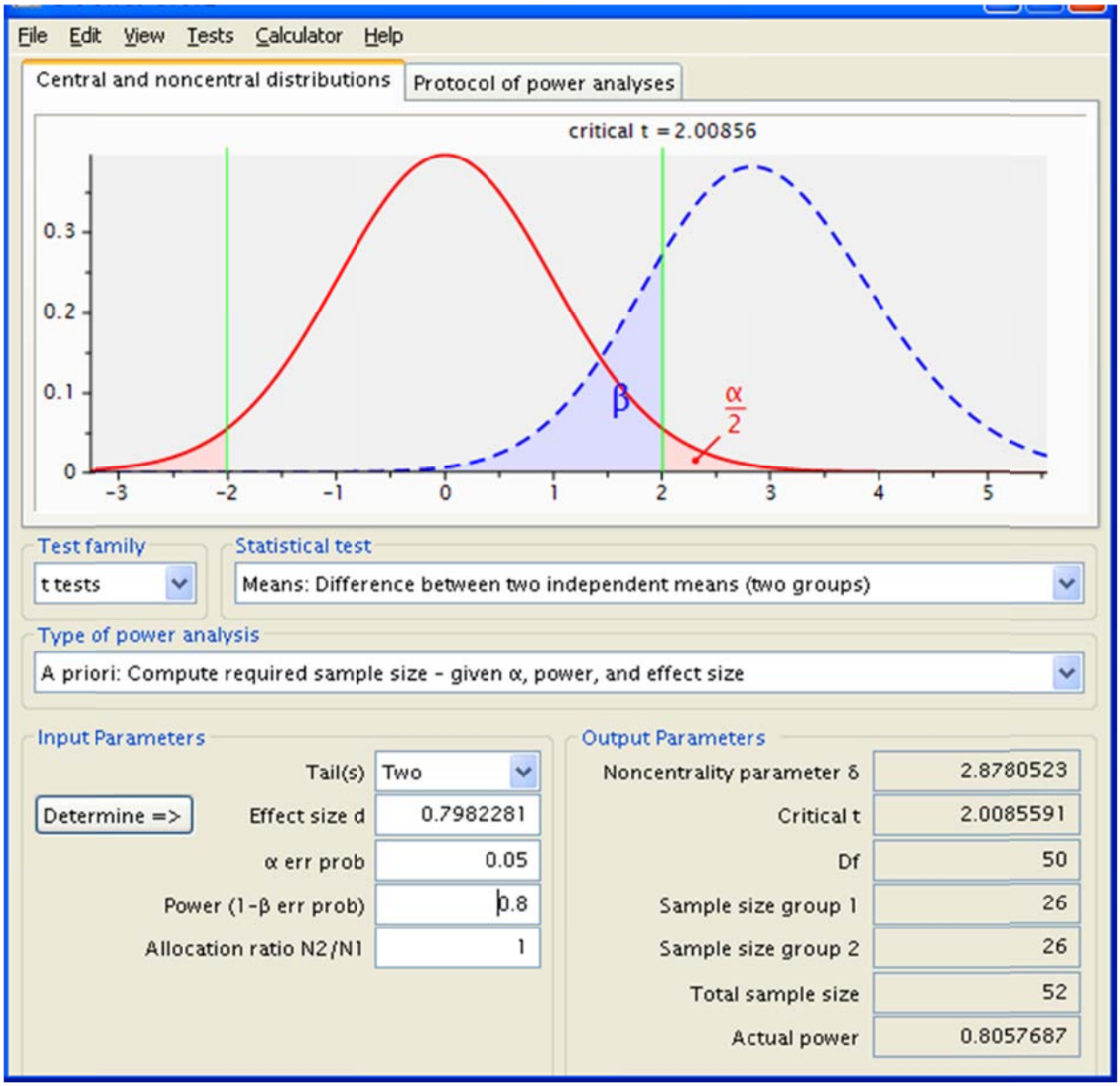
Anything else included in provision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Appropriate recruitment of candidates onto courses	1	2.6	33.3	33.3
	Understanding that dietetics is a patient-centred profession	1	2.6	33.3	66.7
	improved representativeness of students	1	2.6	33.3	100.0
	Total	3	7.9	100.0	
Missing	-9	35	92.1		
Total		38	100.0		

Anything else included in provision

		Frequency	Percent
Missing	-9	38	100.0

Appendix 4
Power Calculation



University of Chester

Faculty of Applied Sciences
Research Ethics Committee

Tel 01244 511740
Fax 01244 511302
frec@chester.ac.uk

Jane Kay Walsh
[redacted]

31st October 2011

Dear Jane,

Study title: **An evaluation of the University of Chester's dietetic course programmes; do they enhance employment and meet the needs of the workforce?**
FREC reference: **550/11/JW/CS**
Version number: **2**

Thank you for sending your application to the Faculty of Applied Sciences Research Ethics Committee for review.

I am pleased to confirm ethical approval for the above research, provided that you comply with the conditions set out in the attached document, and adhere to the processes described in your application form and supporting documentation. However, the Committee would like to make the following recommendation:-

- On the Questionnaire, Therapeutic Skills, Q. 4 e (ii) please remove the word 'every' and replace with '...relevant areas of patient care'.

Please forward an amended copy of the Questionnaire to [redacted]

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Application Form	1	May 2011
Appendix 1 – List of References	1	April 2011
Appendix 2 – C.V. for Lead Researcher	1	April 2011
Appendix 3 – Participant Information Sheet	1	April 2011
Appendix 4 – Employer Satisfaction Questionnaire	1	April 2011
Appendix 5 – Non-validated Graduate Dietitian Questionnaire	1	April 2011
Appendix 6 – Questionnaire Rationale	1	April 2011
Appendix 7 – Power Calculation	1	April 2011

Appendix 6
FREC Approval Email

Dear Jane

I confirm that the Faculty Ethics Committee, which met on Wednesday 25th Jan 2012, has approved your request to forward your project questionnaire to all previous dietetics graduates via Alison Morgan as outlined in your email request of 12th January 2012.

All the best with your research project.

Kind Regards

Phil Harmes
Admin Assistant/NTI Administrator
Faculty of Applied Sciences
University of Chester
Parkgate Road
Chester
CH1 4BJ

Appendix 7

Electronic Cover Letter for the Graduate Questionnaire

My name is Jane Walsh, and I am a post graduate Dietetic Student from the University of Chester, currently completing my MSc Nutrition and Dietetics dissertation project entitled:

> 'An evaluation of the University of Chester's dietetic course programmes; do they enhance employment and meet the needs of the workforce?'

I am emailing University of Chester graduate dietitians from the North West region to invite them to be involved in this research. Participation would require completion of the electronic questionnaire attached below containing electronic tick box and typed responses.

Should you feel able to participate in this research, please complete and return by Friday 17th February 2012 to Alison Morgan

Please remember to save the questionnaire before completing and returning by email, as the responses will not save if the questionnaire is completed through the email itself.

Once the data is collected and analysed, I will gladly send all participants who request it a summary of the findings.

I look forward to hearing from you.

Jane Walsh

Appendix 8
Invitation to Managers to participate in Interviews, Participant Information Sheet and Consent Form

Dear

My name is Jane Walsh, and I am a post graduate Dietetic Student from the University of Chester, currently completing my MSc Nutrition and Dietetics dissertation project entitled:

> 'An evaluation of the University of Chester's dietetic course programmes; do they enhance employment and meet the needs of the workforce?'

I am writing to dietetic managers across the North West region to invite them to be involved in this research. Participation would be via a one-to-one dicta phone recorded interview and should take no longer than 45 minutes. I would travel to your self or conduct the interview via telephone, should this be your preference. Please be aware Trust details will not appear in the dissertation project.

I have enclosed a participant information sheet for you information, as well as a consent form to be signed and returned in the pre-paid envelope to the Department of Clinical Sciences, University of Chester, by **(Date to be inserted here)** should you feel able to participate in this research. Once the data is collected and analysed, I will gladly send all participants a summary of the findings.

I look forward to hearing from you

Yours faithfully,

Jane Walsh

Participant Information Sheet and Consent Form

University of Chester's graduate dietitians employability on completion of their dietetic programme

You are invited to take part in a one-to-one Dictaphone recorded interview to gauge whether the University of Chester dietetic course meets dietetic department manager's expectations and needs in relation to employability. Before you decide, it is important you are aware of why the research is being undertaken, and what it will involve. Please take the time to read the following information before you agree to take part. Please do not hesitate to ask me if there is anything you do not understand, or if there is anything to require more information about.

What is the purpose of this study?

The aim of the study is to evaluate the pre-registration dietetic training programmes at the University of Chester in relation to graduate's readiness for practice and their employability on completion of the course.

The study participants are graduates from the University of Chester dietetic graduates and managers of dietetic departments.

Why have you been selected?

You have been selected because you are the manager of a dietetic department.

What happens next?

Participants are requested to return the consent form enclosed in the pre-paid envelope provided to the University of Chester, Dept of Clinical Sciences Office.

Will the information provided be confidential?

Disclosure of the Dietetic Department you manage will be optional. However, no Trust names will appear on the final report.

What are the benefits of taking part?

The evaluation information provided will aid future course content for the University of Chester to ensure it encompasses all the necessary elements to produce fit for purpose dietitians. It gives programme leads an awareness of manager's opinions and views on the University of Chester's graduate dietitian's competency, readiness to practice, and employability.

What are the disadvantages of taking part?

There are no disadvantages or foreseen risks in taking part. The only constraint however, may be time; however, interviews will be kept to a maximum of 45 minutes.

What will happen to the results of the questionnaire?

The results will form part of an MSc dissertation in Nutrition and Dietetics to be submitted to the Department of Clinical Sciences at the University of Chester (Telephone Number:)

Do you have to take part?

There is no obligation to take part in the study. If you decide to take part, you are free to withdraw at any time and without giving a reason.

Is there a complaints procedure?

If you are unhappy with any aspects of the research, or have any complaints or concerns about the way you have been approached or treated during the course of this study, please contact: Professor Sarah Andrew, Dean of the Faculty of Applied Sciences, University of Chester, Parkgate Road, Chester, CH1 4BJ Tel: 01244513055

Who can I contact for further information?

If you would like more information about the research before you decide whether or not you would be willing to take part, please contact:

Jane Walsh, Lead Researcher c/o Department of Clinical Sciences Office

Evaluation of the pre-registration dietetic training programmes at the University of Chester in relation to employability.

Consent Form

Researcher: Jane Walsh

1) I confirm that I have read and understood the information sheet for the above study and have had the opportunity to ask questions

2) I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason

3) I agree to take part in the above study

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Name of Participant	Date	Signature

---	---	---
Name of Researcher	Date	Signature

Appendix 9

Graduate Participant Information Sheet

Dear

My name is Jane Walsh, and I am a post graduate Dietetic Student from the University of Chester, currently completing my MSc Nutrition and Dietetics dissertation project entitled:

> 'An evaluation of the University of Chester's dietetic course programmes; do they enhance employment and meet the needs of the workforce?'

I am writing to University of Chester graduate dietitians from the North West region to invite them to be involved in this research. Participation would require completion of a questionnaire containing both tick box and written responses.

I have enclosed a participant information sheet for you information, as well as a consent form to be signed and returned in the pre-paid envelope to the Department of Clinical Sciences, University of Chester, by **(Date to be inserted here)** should you feel able to participate in this research. Once the data is collected and analysed, I will gladly send all participants a summary of the findings.

I look forward to hearing from you

Yours faithfully,

Jane Walsh